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October 2, 2012

Mr. Jason Reichart
Special Projects Engineer
City of Iowa City
City Hall
410 East Washington St
Iowa City, Iowa 52240

RE: Draft Taft Speedway Flood Mitigation Study Alternatives Report

Dear Mr. Reichart:

Please find attached the Draft Taft Speedway Flood Mitigation Study Alternatives Report. This Draft Report is being made available for viewing as requested during one of the public meetings. The Final Report is expected to be issued later this month.

Should you have any questions, please feel free to contact me any time at (402) 926-7110.

HDR ENGINEERING, INC.
Sincerely,

A handwritten signature in black ink, appearing to read 'John Engel', written over a light gray circular background.

John Engel, PE
Project Manager

Attachment

***DRAFT Taft
Speedway
Flood Mitigation
Study
Alternatives
Report***

**Taft Speedway
Flood Mitigation
Alternatives Study**

**DRAFT Flood
Mitigation Study
Alternatives Report**

Iowa City, IA



Prepared for:

City of Iowa City

October 2012

Prepared by:

HDR Engineering, Inc.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
CDBG	Community Development Block Grant
CFR	Code of Federal Regulations
CFS	Cubic Feet Per Second
DNR	Department of Natural Resources
EIS	Environmental Impact Study
EJ	Environmental Justice
Elev.	Elevation
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FT	Feet
GDR	Geotechnical Data Report
HEC-RAS	Hydrologic Engineering Center River Analysis System
HMGP	Hazard Mitigation Grant Program
HUD	US Department of Housing and Urban Development
IDED	Iowa Department of Economic Development
IEDA	Iowa Economic Development Authority
LiDAR	Light Detection and Ranging
LUST	Leaking Underground Storage Tank
MIN.	Minimum
NEPA	National Environmental Policy Act
NGVD29	National Geodetic Vertical Datum of 1929
NWI	National Wetlands Inventory
O&M	Operations and Maintenance
POPCC	Preliminary Opinion of Probable Construction Cost
ROW	Right of Way
SHPO	State Historic Preservation Office
SPT	Standard Penetration Test
T&E	Threatened and Endangered
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WSEL	Water Surface Elevation

EXECUTIVE SUMMARY

A feasibility study of flood mitigation alternatives for the Taft Speedway area was conducted by HDR Engineering, Inc. (HDR) for the City of Iowa City (City). This flood mitigation study involved assessing the flood mitigation need, identifying a range of flood mitigation alternatives, conducting an initial screening of alternatives, developing screened mitigation alternatives, investigating potential impacts of the screened alternatives, and soliciting public involvement and input.

The two most recent significant flooding events that have occurred on the Iowa River were in 1993 and 2008. The summer 1993 flooding elevation was nearly equivalent to the Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) 100-year elevation. The June 2008 flood elevation was nearly equivalent to the FEMA FIS 500-year elevation. Both flooding events impacted the study area, requiring evacuation of Idyllwild neighborhood and residents living in the vicinity of Taft Speedway and causing substantial flood damage to infrastructure in the area.

Through stakeholder and public engagement, ten flood mitigation alternatives were identified for initial screening. Each of these ten alternatives was initially screened based on the alternative's ability to meet project goals, eligibility for funding, and the overall feasibility of the alternative. Five of the flood mitigation alternatives were screened for further evaluation (see Table 2).

Following the initial screening, the five screened alternatives were further developed to allow more detailed evaluation of alternative requirements, costs, and impacts. Alternative 9 was further developed into four different options, which resulted in a total of eight final flood mitigation alternatives:

Alternative 1 - Do-Nothing: This alternative does not include permanent infrastructure improvements. This alternative would assume temporary access improvements or flood-fighting measures as needed during a flood event.

Alternative 2B - Raise Foster Road: This alternative would raise the Foster Road profile to one foot above the 0.2% annual chance water surface elevation (WSEL) to maintain access to the Peninsula area of Iowa City.

Alternative 7 - Levee: This alternative would involve the construction of an earthen levee, with required appurtenances, around the Idyllwild neighborhood and Parkview Church primarily along Taft Speedway between No Name Road and Dubuque Street. The top of levee elevation would provide three feet of freeboard over the 1% annual chance WSEL.

Alternative 8 - Floodwall: This alternative would include the construction of a floodwall, with required appurtenances, around the Idyllwild neighborhood and Parkview Church primarily north of Taft Speedway between No Name Road and Dubuque Street. The top of floodwall elevation would provide three feet of freeboard over the 0.2% annual chance WSEL.

Alternative 9A - Levee/Floodwall Combination (500-year): This alternative would include the construction of both a levee and a floodwall. The floodwall would be constructed along Taft Speedway between No Name Road and the access road to Parkview Church. The earthen levee would be constructed along No Name Road between Taft Speedway

and Foster Road, along Taft Speedway from the access road at Parkview church to Dubuque Street, and the east levee tie-back would be along the Dubuque Street ROW from Taft Speedway to the southwest corner of Dubuque Street and Foster Road. The top of levee/floodwall would provide three feet of freeboard over the 0.2% annual chance WSEL.

Alternative 9B - Levee/Floodwall Combination with Taft Speedway Raise (500-Year):

This alternative would include the construction of both a levee and a floodwall. The floodwall would be constructed along Taft Speedway between No Name Road and the access road to Parkview Church. The earthen levee would be constructed along No Name Road between Taft Speedway and Foster Road, along Taft Speedway from the access road at Parkview church to Dubuque Street, and the east levee tie-back would be along the Dubuque Street ROW from Taft Speedway to the southwest corner of Dubuque Street and Foster Road. The top of levee/floodwall would provide three feet of freeboard over the 0.2% annual chance WSEL. The purpose of this modification to Alternative 9A is to evaluate potential floodwall cost savings due to the shorter floodwall height required with a Taft Speedway road raise.

Alternative 9C - Levee/Floodwall Combination (100-Year): This alternative is similar to Alternative 9A, but the top of levee/floodwall would provide three feet of freeboard over the 1% annual chance WSEL.

Alternative 9D - Levee/Floodwall Combination with Taft Speedway Raise (100-Year):

This alternative is similar to Alternative 9B, but the top of levee/floodwall would provide three feet of freeboard over the 1% annual chance WSEL.

Each of the eight flood mitigation alternative was conceptually defined to determine project elements, capital costs, operations and maintenance costs, ROW requirements, and allow evaluation of potential impacts that include: environmental, utilities, existing infrastructure, Iowa River hydraulics, aesthetics, and the value of property protected.

Public input was gathered throughout the study using a variety of methods. The first public meeting was held August 25, 2011 to define the study goals and objectives and gather input on flood mitigation alternatives and evaluation criteria. The second meeting was an open house conducted May 31, 2012 to present flood mitigation alternatives. The third public meeting was held June 6, 2012 to gather public input on the flood mitigation alternatives. In addition to the public meetings, a project website has been maintained throughout the project to provide information as it becomes available and gather public input. Appendices E, F, G, and H document the public meetings and comment.

Each of the screened flood mitigation alternatives is technically feasible. Each of the screened alternatives that involve construction improvements (Alternatives 2B, 7, 8, 9A, 9B, 9C, and 9D) have varying levels of environmental, utility, infrastructure, and aesthetic impacts as documented in Section 4.0. None of the alternatives have adverse impacts on Iowa River hydraulics. **Table ES-1** summarizes the preliminary opinion of probable construction costs associated with each alternative.

Table ES -1: Summary of Preliminary Opinion of Probable Construction Costs (POPCC)

Screened Alternative	POPCC
Alternative 2B	\$3,000,000
Alternative 7	\$8,100,000
Alternative 8	\$14,300,000
Alternative 9A	\$13,100,000
Alternative 9B	\$13,300,000
Alternative 9C	\$11,400,000
Alternative 9D	\$11,700,000

Based on the evaluations conducted in this study, Alternative 7 is the alternative that provides flood mitigation for the 1% annual chance event that best meets project goals. This is based on this alternative's ability to provide the specified level of flood protection to Idyllwild, Parkview Church, and access routes to the Peninsula area. Costs for this alternative are less than the other alternatives that provide the same level and extent of protection, and are within the City's budgeted amount. Finally, this alternative provides the flexibility to allow employment of temporary flood fighting measures to increase the level of protection provided for more extreme events.

Based on the evaluations conducted in this study, Alternative 9A is the alternative that provides flood mitigation for the 0.2% annual chance event that best meets project goals. This is based on this alternative's ability to provide the specified level of flood protection to Idyllwild, Parkview Church, and access routes to the Peninsula area. Costs for this alternative are less than the other alternatives that provide the same level and extent of protection.

Section 8.0 contains recommendations for consideration.

1.0 INTRODUCTION

A feasibility study of flood mitigation alternatives for the Taft Speedway area was conducted by HDR Engineering, Inc. (HDR). This flood mitigation study involved assessing the flood mitigation need, identifying a range of flood mitigation alternatives, conducting an initial screening of alternatives, developing screened mitigation alternatives, investigating potential impacts of the screened alternatives, and soliciting public involvement and input.

1.1 Project and Study Area

The Taft Speedway area is located in Iowa City, Iowa. The Project Area encompasses the area bounded by Foster Road to the north, Dubuque Street to the east, the Iowa River to the south, and No Name Road to the west. The Study Area includes the area bounded by I-80 to the north, Iowa River to the west, Dubuque Street to the east, and City Park and Parkview Terrace to the south. **Figure 1** provides a map of the Project and Study Area.

The two most recent significant flooding events that have occurred on the Iowa River were in 1993 and 2008. The Summer 1993 flooding elevation was nearly equivalent to the Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) 100-year elevation. The June 2008 flood elevation was nearly equivalent to the FEMA FIS 500-year elevation. Both flooding events impacted the Idyllwild neighborhood and residents living in the vicinity of Taft Speedway. Residents were evacuated from their homes in this area of Iowa City for both aforementioned flooding events.

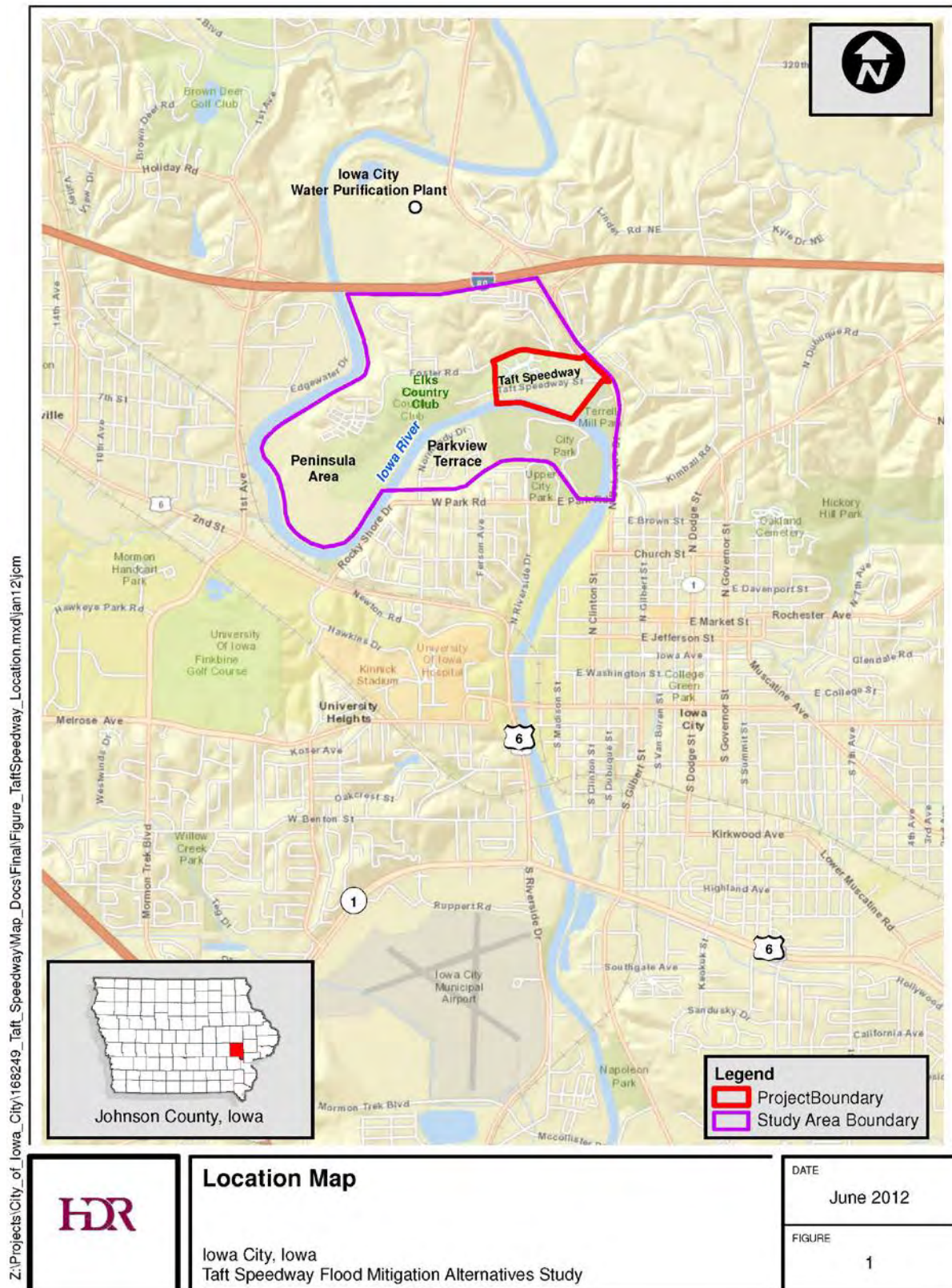
1.2 Purpose

After the Community Development Block Grant (CDBG) Disaster Recovery Program announced Iowa City was eligible to receive funding to construct a levee along Taft Speedway and No Name Road, the residents in the Taft Speedway and Parkview Terrace neighborhoods requested further study of the viability of flood mitigation and the impacts it would have on their neighborhoods. The US Department of Housing and Urban Development (HUD) Disaster Recovery Office required the City of Iowa City to address the concerns of the Taft Speedway and Parkview Terrace residents and provide additional information regarding the effects flood mitigation would have on them prior to the receipt of CDBG funding.

This study will expand on the results on the January 2009 *Iowa River Corridor Flood Protection Options for Parkview Terrace and Idyllwild Neighborhoods* by Stanley Consultants (2009 Stanley Report). The purpose of this study is to evaluate the feasibility of various flood mitigation alternatives and the overall impact each alternative would have on the residents and property in the Study Area. This study includes the analysis of environmental and archaeological, utility, and hydraulic impacts; soil stability; accessibility issues; impacts to property values and insurance; funding; and construction scheduling. The Taft Speedway Flood Mitigation study was funded by a CDBG awarded through the Iowa Economic Development Authority (IEDA), formally Iowa Department of Economic Development (IDED), and was subject to CDBG guidelines.

The work described above is discussed in greater detail in the chapters and appendices that follow.

Figure 1. Taft Speedway Flood Mitigation Study and Project Areas



2.0 FLOOD MITIGATION NEEDS

The evaluation of hydraulic impacts to the Study Area consisted of the use of the U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center River Analysis System (HEC-RAS). HR Green, a consultant retained by the City of Iowa City, updates and maintains the Iowa River HEC-RAS model used by Coralville, the University of Iowa, and Iowa City. This model was developed to determine the overall impacts the three entities' post-2008 flood mitigation efforts would have on river levels during particular flood events. HR Green's Iowa River existing conditions model used for the Taft Speedway Flood Mitigation Study is described in more detail below.

2.1 Methodology

See **Appendix A** for more detailed information on the methodology and results of the existing conditions hydraulics analysis. The hydraulics analysis incorporated the use of a HEC-RAS model that has been maintained by HR Green on behalf of Iowa City. This model includes current projects within Iowa City that are currently in planning, design, and construction. The Dubuque Street and Park Road improvements are included in the Iowa City Gateway Project (Gateway Project). The intent of the Gateway Project is to raise Dubuque Road and replace the Park Road bridge over the Iowa River such that they remain open during the 500-year flood event. In order to evaluate the combined affects the flood mitigation alternatives and Park Road bridge replacement, the flood mitigation alternatives were evaluated with and without the Dubuque Street and Park Road improvements.

HR Green evaluated the seven screened alternatives presented in Section 3.3 of this report. Each alternative was evaluated with and without Dubuque Street and Park Road improvements.

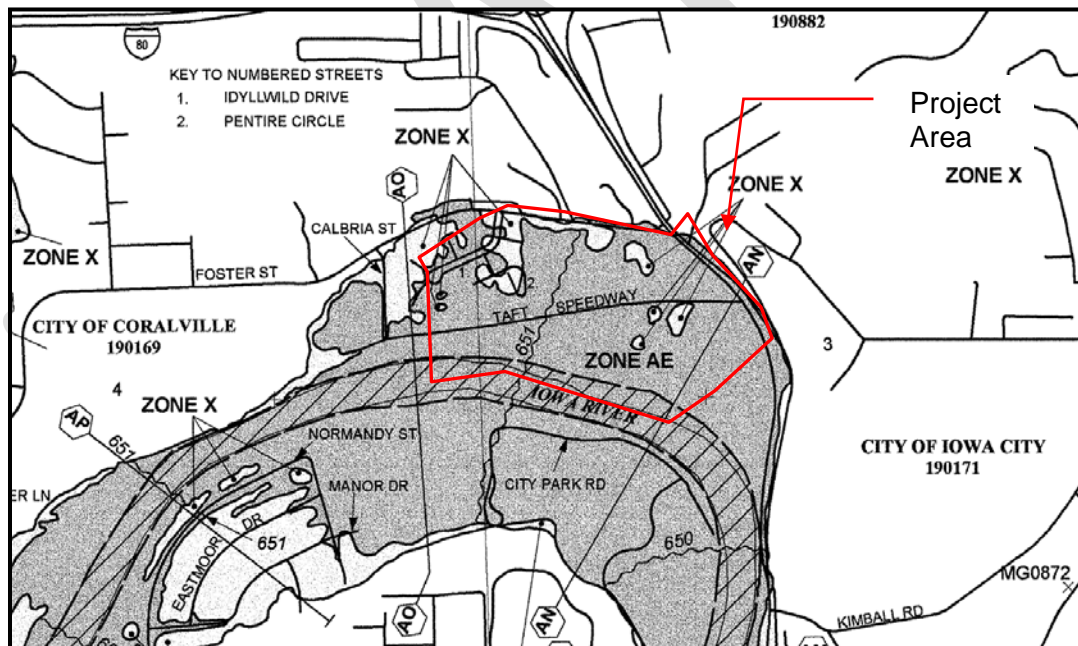
2.2 FEMA Regulatory Floodplain

The effective regulatory floodplain for the Iowa River is based on hydrology updated in 1994 and 1995 by USACE and the U.S. Geological Survey (USGS). Generally, discharges along the Iowa River below Coralville Dam have been regulated. The updated hydrology reflects updates to the previous discharge frequency curves prepared by USACE in response to the 1993 flood. The FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) were last updated in February 2007; however, the hydrology and hydraulics were not updated as part of the 2007 remapping effort and utilized the previously updated hydrology and hydraulics. **Table 1** below provides a summary of discharges and water surface elevations (WSELs) for the Iowa River from the FIS and other sources. The discharges are reported at I-80 and at USGS Gage No. 05454500, which are located upstream and downstream of the Project Area, respectively. The WSELs are referenced to the National Geodetic Vertical Datum of 1929 (NGVD29). FIRM cross sections AN and AO were utilized for reference, as they are located directly downstream and upstream of the Project Area, respectively. See **Figure 2** for an excerpt from the FEMA FIRM for the location of cross sections AN and AO with respect to the Project Area.

Table 1: Summary of Iowa River Hydrology and Hydraulics

Return Interval	Discharge (cfs)		WSEL (ft NGVD29)	
10-Year ¹ (10% Annual Chance)	At I-80:	12,500	AO:	646.5
	USGS Gage ² :	14,000	AN:	646.0
50-Year ¹ (2% Annual Chance)	At I-80:	20,000	AO:	649.0
	USGS Gage ² :	22,000	AN:	648.5
100-Year ³ (1% Annual Chance)	At I-80:	25,000	AO:	651.0
	USGS Gage ² :	29,000	AN:	650.5
500-Year (0.2% Annual Chance)	At I-80:	40,000	657.0	
	USGS Gage ² :	45,000		
1993 Flood ⁵	28,200		650.9	
2008 Flood ⁶	41,100		655.2	

- 1) The 10-year and 50-year data were obtained from the February 16, 2007 FIS.
- 2) The USGS Gage referenced above refers to the USGS Gage No. 05454500 along the Iowa River in Iowa City. This gage is downstream of the Project Area.
- 3) The 100-year and 500-year discharges were obtained from the February 16, 2007 FIS.
- 4) The 100-year and 500-year WSELs were obtained from the 2009 Stanley Report.
- 5) The 1993 flood flow values were obtained from the USGS Gage No. 05454500 along the Iowa River in Iowa City. The 1993 flood WSEL was recorded by the City's survey team at approximately the Foster Road and Dubuque Street intersection.
- 6) The 2008 flood flow values were obtained from the USGS Gage No. 05454500 along the Iowa River in Iowa City. The 2008 flood WSEL was recorded by the City's survey team at approximately the Foster Road and Dubuque Street intersection.

Figure 2: Taft Speedway Area FEMA FIRM Excerpt, February 16, 2007¹

¹ This FEMA FIRM excerpt is from Johnson County, Iowa Panel 195 of 450, Map Number 19103C0195E, Effective Date February 16, 2007.

3.0 FLOOD MITIGATION ALTERNATIVES

Various flood mitigation alternatives were identified as part of the preliminary screening phase of the flood mitigation study. The following sections document the identification of the alternatives and the analysis conducted.

3.1 Development of Initial Flood Mitigation Alternatives

The development of preliminary flood mitigation alternatives for the Taft Speedway Project Area is described below.

3.1.1 Flood Mitigation Purpose

The Idyllwild neighborhood and Taft Speedway area experienced significant flooding as part of the Iowa River flood of record in 2008. This flood of record was nearly equivalent to the 0.2% annual chance storm event in accordance with the FEMA FIS. This flood mitigation study evaluated alternatives for providing flood risk reduction at the 1% annual chance storm event WSEL and at the 0.2% annual chance storm event WSEL. The flood risk reduction alternatives incorporated options that would attempt to reduce the damage associated with future flood events at the aforementioned frequency levels and to maintain access to the peninsula area.

The storm event WSELs utilized to develop the following alternatives are approximations. In the project vicinity, 1% annual chance WSEL (also known as the 100-year) is approximately 651.0 feet and the 0.2% annual chance WSEL (also known as the 500-year) is approximately 657.0 feet (**Table 1**).

3.1.2 Description of Initial Alternatives

Ten initial alternatives were identified through discussion with project stakeholders and public input. These alternatives are described below.

1. Do-Nothing: This alternative does not include permanent infrastructure improvements. This alternative would assume temporary access improvements or flood-fighting measures as needed during a flood event.
2. Raise Foster Road: This alternative would raise the Foster Road profile above the 1% annual chance, 2008 flood event, and 0.2% annual chance WSELs to maintain access to the Peninsula area of Iowa City. No flood mitigation to the Idyllwild or Taft Speedway residents would be provided by this alternative.
3. CDBG/Hazard Mitigation Grant Program (HMGP) Buyouts: This alternative would include the purchase of structures and property that would potentially be subjected to damage associated with the 0.2% annual chance flood event.
4. Removal/Modification of Burlington Street Dam: This alternative would involve the removal or modification of the Burlington Street Dam to improve Iowa River conveyance of flood flows and lower peak river stages in the area of the Taft Speedway.
5. Iowa River Conveyance Improvements: This alternative would involve the clearing or excavating of river channel improvements and/or removal of bridge obstructions. The result of these improvements would lower peak river WSELs in the Taft Speedway area during flood events.
6. Coralville Reservoir Modification: The USACE, Rock Island District, has said the storage capacity of the reservoir has been reduced by about 15% over the years when the entire

area is considered. The reduction is due to siltation or an increased accumulation of fine sediment on the bottom of the reservoir. However, siltation rates have slowed and lost storage is not yet a concern. The 15 % storage capacity would not have made a significant difference since there was enough water to fill the lake numerous times in 1993 and 2008. USACE Rock Island was asked by former governor Culver to review the water control at the four flood control reservoirs located within Iowa (Saylorville, Coralville, Red Rock – [Rock Island District], Rathbun – [Kansas City District]). The goal would be to find out if there would be any benefit to modifying the water control plans. USACE Rock Island has put together a cost estimate for that work but it is currently unfunded.

7. Levee: This alternative would involve the construction of an earthen levee, with required appurtenances, around the Idyllwild neighborhood primarily along Taft Speedway between No Name Road and Dubuque Street. The west side of the levee would likely tie into high ground at the intersection of the No Name Road and Foster Road. The east side of the levee would likely tie into high ground north of Taft Speedway, west of Dubuque Street, east of Parkview Church, and south of Foster Road. The top-of-levee elevation would provide three feet of freeboard above the 1% or 0.2% annual chance storm WSEL, as applicable.
8. Floodwall: This alternative would include the construction of a floodwall, with required appurtenances, around the Idyllwild neighborhood. The west side of the floodwall would likely tie into high ground southeast of the intersection of the No Name Road and Foster Road. The east side of the floodwall would likely tie into high ground southwest of the intersection of Dubuque Street and Foster Road. The top-of-floodwall elevation would provide three feet of freeboard above the 0.2% annual chance storm WSEL.
9. Levee/Floodwall Combination: This alternative would include the combination of a levee and floodwall in the same alignment as discussed above. The floodwall would be utilized in areas of constrained right of way (ROW). The levee/floodwall combination would provide three feet of freeboard above the 1% or 0.2% annual chance storm WSELs, as applicable.
10. Flood-Proofing of Structures, Including Structure Raises: This alternative would include structural improvements to flood-proof the buildings, site improvements to facilitate flood fighting closures, and/or raising structures to or above the 0.2% annual chance storm WSEL.

3.2 Evaluation of Initial Flood Mitigation Alternatives

For the preliminary screening, the above-mentioned alternatives were defined to a conceptual level to make qualitative comparisons. Alternatives were evaluated based on the level of protection that could be provided, feasibility for HUD funding, and technical feasibility. The criteria and initial screening results are provided in more detail below.

3.2.1 Criteria/Metrics for Initial Screening

Prior to the initial screening of the ten alternatives provided above, the screening criteria were developed. The Study area was divided into four divisions: Foster Road, Idyllwild, Taft Speedway residents, and Parkview Church. The criteria utilized during the screening process are described below.

- 100-Year Protection Level: This criteria evaluation determines whether the alternative provides flood mitigation at the 100-year, or 1% annual chance, storm event.

- 2008 Flood Event Protection: This criteria evaluation determines whether the alternative provides flood mitigation at the peak WSEL and flow associated with the 2008 Iowa River flood event.
- 500-Year Protection Level: This criteria evaluation determines whether the alternative provides flood mitigation at the 500-year, or 0.2% annual chance storm event.
- Flood Mitigation: Flood mitigation is provided at the specified storm event with freeboard. In accordance with Title 44, Chapter 65.10 of the Code of Federal Regulations (44CFR65.10) for certified levees, freeboard is defined as a minimum of three feet above the 1% annual chance storm WSEL. Additional requirements include that an additional one (1) foot of freeboard is required within 100 feet of a bridge (upstream or downstream) and an additional half of a foot (0.5) of freeboard is required at the upstream end of the levee. For the levee and floodwall alternatives listed herein, three (3) feet of freeboard above the design WSEL is provided for each alternative, unless specifically noted otherwise.
- Feasibility: This criteria evaluation considers the technical feasibility of that particular alternative.
- Eligibility for HUD Funding: This criteria evaluation compares the alternatives against eligible activities for HUD funds. Potentially eligible HUD activities include the acquisition of real property, improvements of public facilities and privately owned utilities, the relocation of individuals or businesses, and the clearance, rehabilitation, reconstruction and construction of buildings. CDBG funds cover facilities that are permanent, not temporary, and the improvement must be a minimum of a 100-year flood mitigation level.

3.2.2 Initial Screening Results

A screening matrix was developed that includes: a brief description of the alternative, the results of the screening evaluation using the criteria listed above, and a brief description of the results of the screening process is provided for reference as **Table 2** on the following page. Based on the initial screening, five out of ten alternatives were selected for further analysis. The other five alternatives were not further analyzed due to the inability to meet project objectives, ineligibility for grant funding, or technically/politically infeasible.

3.3 Development of Final Flood Mitigation Alternatives

As discussed above, five alternatives were selected for additional analysis. Alternative 9 was further developed into four different options, which resulted in eight different final flood mitigation alternative options, with the first option being the Do-Nothing alternative. The final alternatives are briefly described below with additional detail provided in subsequent sections. **Figures 2 through 8** are provided on subsequent pages providing a visual description of the seven proposed alternatives consisting of improvements. Alternative 1, the Do-Nothing alternative, is not shown in a figure. Alternatives that include levees along No Name Road and Taft Speedway alignments would include the roadway on top of the levee embankment.

Alternative 1 - Do-Nothing: This alternative does not include permanent infrastructure improvements. This alternative would assume temporary access improvements or flood-fighting measures as needed during a flood event.

Alternative 2B - Raise Foster Road: This alternative would raise the Foster Road profile to one foot above the 0.2% annual chance WSEL to maintain access to the Peninsula

area of Iowa City. The design elevation would be equal to the 0.2% annual chance flood event plus one foot (658.0 ft). See **Figure 3**.

Alternative 7 - Levee: This alternative would involve the construction of an earthen levee, with required appurtenances, around the Idyllwild neighborhood and Parkview Church primarily along Taft Speedway between No Name Road and Dubuque Street. The top of levee elevation would provide three feet of freeboard over the 1% annual chance WSEL. The risk reduction level was modified from the 0.2% annual chance level to the 1% annual chance level due to the building, utility, and property acquisition impacts along Taft Speedway that would be required and the ROW constraints that limit the level of mitigation a levee could provide. The resulting elevation would be 654.0 ft. The west side of the levee would tie into high ground along No Name Road south of Foster Road. The east side of the levee would tie into high ground north of Taft Speedway, west of Dubuque Street, east of Parkview Church, and south of Foster Road. See **Figure 4**.

Alternative 8 - Floodwall: This alternative would include the construction of a floodwall, with required appurtenances, around the Idyllwild neighborhood and Parkview Church primarily north of Taft Speedway between No Name Road and Dubuque Street. The top-of-floodwall elevation would provide three feet of freeboard over the 0.2% annual chance WSEL. The resulting elevation would be 660.0 ft. The west side of the floodwall would stop southeast of the intersection of No Name Road and Foster Road. The east side of the floodwall would stop southwest of the intersection of Dubuque Street and Foster Road. See **Figure 5**.

Alternative 9A - Levee/Floodwall Combination (500-year): This alternative would include the construction of both a levee and a floodwall. The floodwall would be constructed along Taft Speedway between No Name Road and the access road to Parkview Church. The earthen levee would be constructed along No Name Road between Taft Speedway and Foster Road, along Taft Speedway from the access road at Parkview church to Dubuque Street, and the east levee tie-back would be along the Dubuque Street ROW from Taft Speedway to the southwest corner of Dubuque Street and Foster Road. The top of levee/floodwall would provide three feet of freeboard over the 0.2% annual chance WSEL. The resulting top-of-levee/floodwall elevation would be at 660.0 ft. See **Figure 6**.

Alternative 9B - Levee/Floodwall Combination with Taft Speedway Raise (500-Year): This alternative would include the construction of both a levee and a floodwall. The floodwall would be constructed along Taft Speedway between No Name Road and the access road to Parkview Church. The earthen levee would be constructed along No Name Road between Taft Speedway and Foster Road, along Taft Speedway from the access road at Parkview church to Dubuque Street, and the east levee tie-back would be along the Dubuque Street ROW from Taft Speedway to the southwest corner of Dubuque Street and Foster Road. The top of levee/floodwall would provide three feet of freeboard over the 0.2% annual chance WSEL. The resulting top of levee/floodwall elevation would be at 660.0 ft. Taft Speedway would be raised in this alternative from the intersection at No Name Road to where the earthen levee begins. The raised profile of Taft Speedway would range in elevation between 649.5 ft to 652.25 ft. The purpose of this modification to Alternative 9A is to evaluate potential floodwall cost savings due to the shorter wall height required with a Taft Speedway road raise. See **Figure 7**.

Alternative 9C - Levee/Floodwall Combination (100-Year): This alternative would include

the construction of both a levee and a floodwall. The floodwall would be constructed along Taft Speedway between No Name Road and the access road to Parkview Church. The earthen levee would be constructed along No Name Road between Taft Speedway and Foster Road, along Taft Speedway from the access road at Parkview church to Dubuque Street, and the east levee tie-back would be along the Dubuque Street ROW from Taft Speedway to the southwest corner of Dubuque Street and Foster Road. The top of levee/floodwall would provide three feet of freeboard over the 1% annual chance WSEL. The resulting top-of-levee/floodwall elevation would be at 654.0 ft. See **Figure 8**.

Alternative 9D - Levee/Floodwall Combination with Taft Speedway Raise (100-Year):

This alternative would include the construction of both a levee and floodwall. The floodwall would be constructed along Taft Speedway between No Name Road and the access road to Parkview Church. The earthen levee would be constructed along No Name Road between Taft Speedway and Foster Road, along Taft Speedway from the access road at Parkview church to Dubuque Street, and the east levee tie-back would be along the Dubuque Street ROW from Taft Speedway to the southwest corner of Dubuque Street and Foster Road. The top of levee/floodwall would provide three feet of freeboard over the 1% annual chance WSEL. The resulting top-of-levee/floodwall elevation would be at 654.0 ft. Taft Speedway would be raised in this alternative from the intersection at No Name Road to where the earthen levee begins. The raised profile of Taft Speedway would range in elevation between 649.5 ft to 652.25 ft. The purpose of this modification to Alternative 9C is to evaluate potential floodwall cost savings due to the shorter wall height required with a Taft Speedway road raise. See **Figure 9**.

Table 2: Initial Alternative Screening Results

Alternative	Alternative Description	100-yr Protection				2008 Flood Event Protection				500-yr Protection				Feasible for HUD Funding	Feasibility	Preliminary Screening Results
		Foster Rd	Idyllwild	Taft Residents	Parkview Church	Foster Rd	Idyllwild	Taft Residents	Parkview Church	Foster Rd	Idyllwild	Taft Residents	Parkview Church			
1. Do-Nothing (temporary flood protection employed as needed)	No permanent infrastructure improvements; temporary measures for access and property protection would be employed	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	Response time adequate for assembly and placement of measures may be an issue. The Emergency Response Plan, prepared by MMS Consultants Inc., determined that protection for events larger than the 100 yr event is clearly not feasible with temporary measures.	Alternative does not achieve the project objectives, but will be carried forward as the “do-nothing” alternative for comparison purposes.
2. Raise Foster Road	Foster Road profile would be raised to above 500-yr WSEL (approximately elevation 657.0) to maintain access to the Peninsula area.	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	N	Road grade raise at Foster Road is technically feasible. Significant utility improvements/modifications would also be required in conjunction with grade raise.	Alternative does not achieve the project objectives, but will be carried forward to evaluate incremental costs of providing access to Peninsula area vs. providing access and flood mitigation.
3. CDBG / HMGP Buyouts	Purchase of structures and property potentially impacted by 500-yr event.	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	Buyout of impacted properties is technically feasible, although condominium association and ownership structure may complicate buyout process.	Alternative not carried forward – Does not achieve project objectives. All funding currently available for buyouts has been committed at this time.
4. Removal/Modification of Burlington Street Dam	Removal or modification to Burlington Street Dam to improve conveyance of Iowa River flood flows and lower peak river stages in the Taft Speedway area	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	Use of bascule gates, or similar gated configuration could be used to increase discharge during flood events, yet provide elevated water surfaces to serve University of Iowa’s water plant intake during low flows. Legal/political issues include utilities within existing dam, dam ownership and coordination with University of Iowa.	Alternative not carried forward – Does not achieve project objectives. Preliminary modeling results show little or no impact (less than 1 ft) to water surface elevations near project area with removal of Burlington Street Dam.
5. Iowa River Conveyance Improvements (channel/bridge improvements)	Increase conveyance of Iowa River by clearing/excavating channel improvements and/or removing bridge obstructions to lower peak river stages in the Taft Speedway area during flood events	Y	Y	Y	Y	P	P	P	P	P	P	P	P	N	Conveyance improvements are technically feasible; however significant issues to be addressed potentially include environmental impacts, land acquisition, and transportation system impacts. Cost / Benefit ratio likely to be very poor.	Alternative not carried forward – extent of property acquisition, infrastructure improvements, and environmental and utility impacts far outweigh the benefits.
6. Coralville Reservoir Modification	Increase flood storage through dredging, physical modifications, or changes to operating rules to provide adequate storage for the 500-yr event.	P	P	P	P	P	P	P	P	P	P	P	P	P	USACE Division Commander has authority to modify water control plans/physical modifications to Coralville reservoir. Level of impacts to the Coralville project, authorized purposes, people, and environment would likely require lengthy environmental impact statement process. Alternative would also require an extensive amount of easements or property acquisition. Raising Coralville Dam to provide additional flood storage is likely not feasible.	Alternative not carried forward – Does not meet project objectives. The IIHR analyzed this alternative in 2009. The IIHR study determined that dredging the Coralville Reservoir would provide limited additional flood protection against major floods similar to 2008. A more aggressive operations plan would increase available storage should a large event occur; however, the benefits are not substantial and would cause frequent low level flooding for downstream communities.
7. Levee	Construct earthen levee and necessary appurtenances to provide protection for Idyllwild	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Earthen levee is likely to be technically feasible. Interior drainage, underseepage, and space constraints for levee footprint are issues that must be addressed for alternative	Alternative carried forward.

Alternative	Alternative Description	100-yr Protection					2008 Flood Event Protection					500-yr Protection					Feasible for HUD Funding	Feasibility	Preliminary Screening Results
		Foster Rd	Idyllwild	Taft Residents	Parkview Church	Foster Rd	Idyllwild	Taft Residents	Parkview Church	Foster Rd	Idyllwild	Taft Residents	Parkview Church						
	area. Likely alignment ties into Foster Road at both ends and runs along existing No Name Road and Taft Speedway on the west and south sides; parallels Dubuque St on the east side. Required elevation for 500-yr WSEL with freeboard is approximately elevation 660.0 ft.															to serve function.			
8. Floodwall	Construct floodwall (temporary or permanent) and necessary appurtenances to provide protection for Idyllwild area. Likely alignment ties into Foster Road at both ends and runs along existing No Name Road and Taft Speedway on the west and south sides; parallels Dubuque St on the east side. Required elevation for 500-yr WSEL with freeboard is approximately elevation 660.0 ft.	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	P		Floodwall is likely to be technically feasible. Interior drainage and underseepage are issues that must be addressed for alternative to serve function. Structures must be permanent to the 100-yr level plus 3 feet of freeboard to be eligible for HUD funding. Even if eligibility requirements are met, CDBG funds cannot be utilized for any structure or part of a structure that would be temporary.	Alternative carried forward.		
9. Levee/Floodwall Combination	Combination of Alternatives 8 and 9 using floodwalls where suitable, i.e. constrained ROW.	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	P		Earthen levee/floodwall is likely to be technically feasible. Similar to levee along alternative, interior drainage, underseepage, and space constraints are issues that must be addressed for alternative to serve function. Structures must be permanent to the 100-yr level plus 3 feet of freeboard to be eligible for HUD funding. Even if eligibility requirements are met, CDBG funds cannot be utilized for any structure or part of a structure that would be temporary.	Alternative carried forward.		
10. Flood-proofing of Structures, including Structure Raises	Structural improvements to buildings to dry-proof; site grading/improvements to facilitate flood fighting closures. Structures would be raised to above 500-yr WSEL (approximately elevation 657.0) - typically 4-8 ft elevation raise required.	Y	Y	Y	Y	N	N	Y	N	N	N	Y	N	N		Flood-proofing all structures to the 2008 or 500-yr event is likely not technically feasible, particularly for the extended duration of flooding due to the regulation of flows by Coralville Reservoir. Raising of residential and/or condominium structures may be technically feasible. Raising of Parkview Church is likely not feasible. Even though flood-proofing measures may prevent property damage, evacuation will be required due to utility and access impacts.	Alternative not carried forward – alternative unlikely to provide protection for events larger than the 100-yr event for all structures.		

Key: Y = Yes, alternative provides respective level of flood protection
N= No, alternative does not provide respective level of flood protection
P = Alternative possibly provides respective level of flood protection; more detailed analysis required.

Figure 3: Alternative 2B

Alternative 2B Foster Road Raise (500-Year Plus 1 Foot)

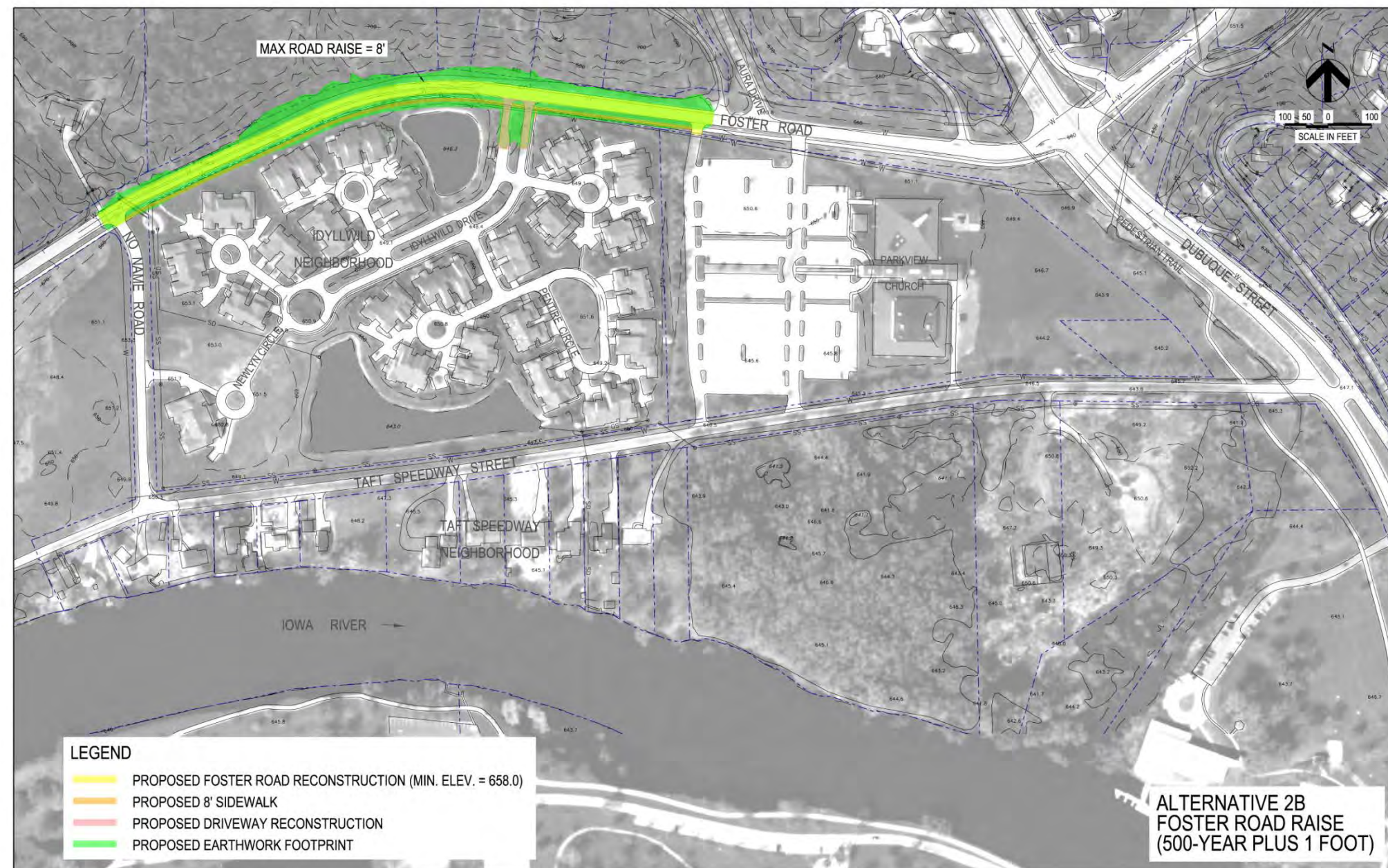


Figure 4: Alternative 7

Alternative 7 Levee (100-Year Plus 3 Feet)

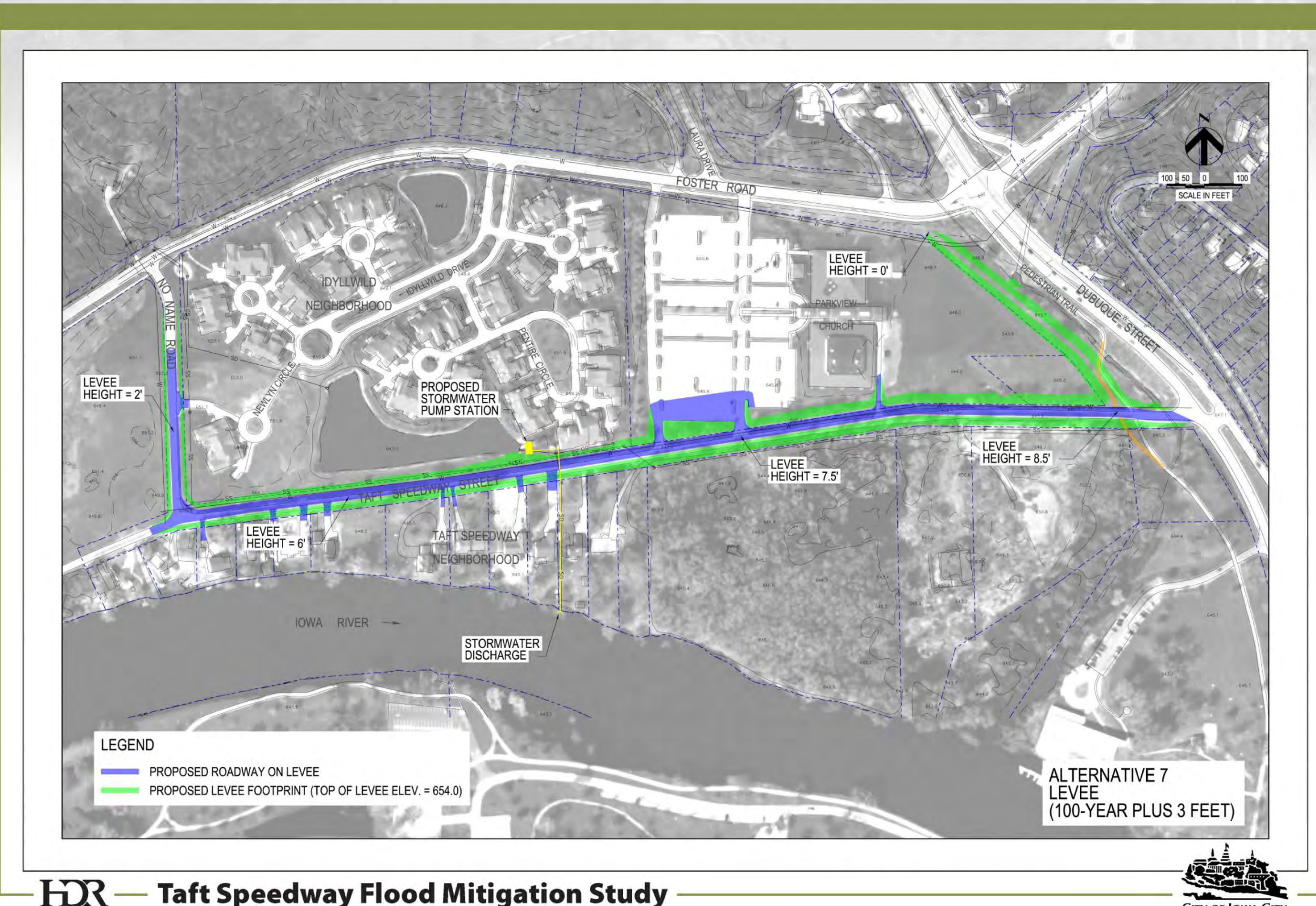


Figure 5: Alternative 8

Alternative 8 Flood Wall (500-Year Plus 3 Feet)

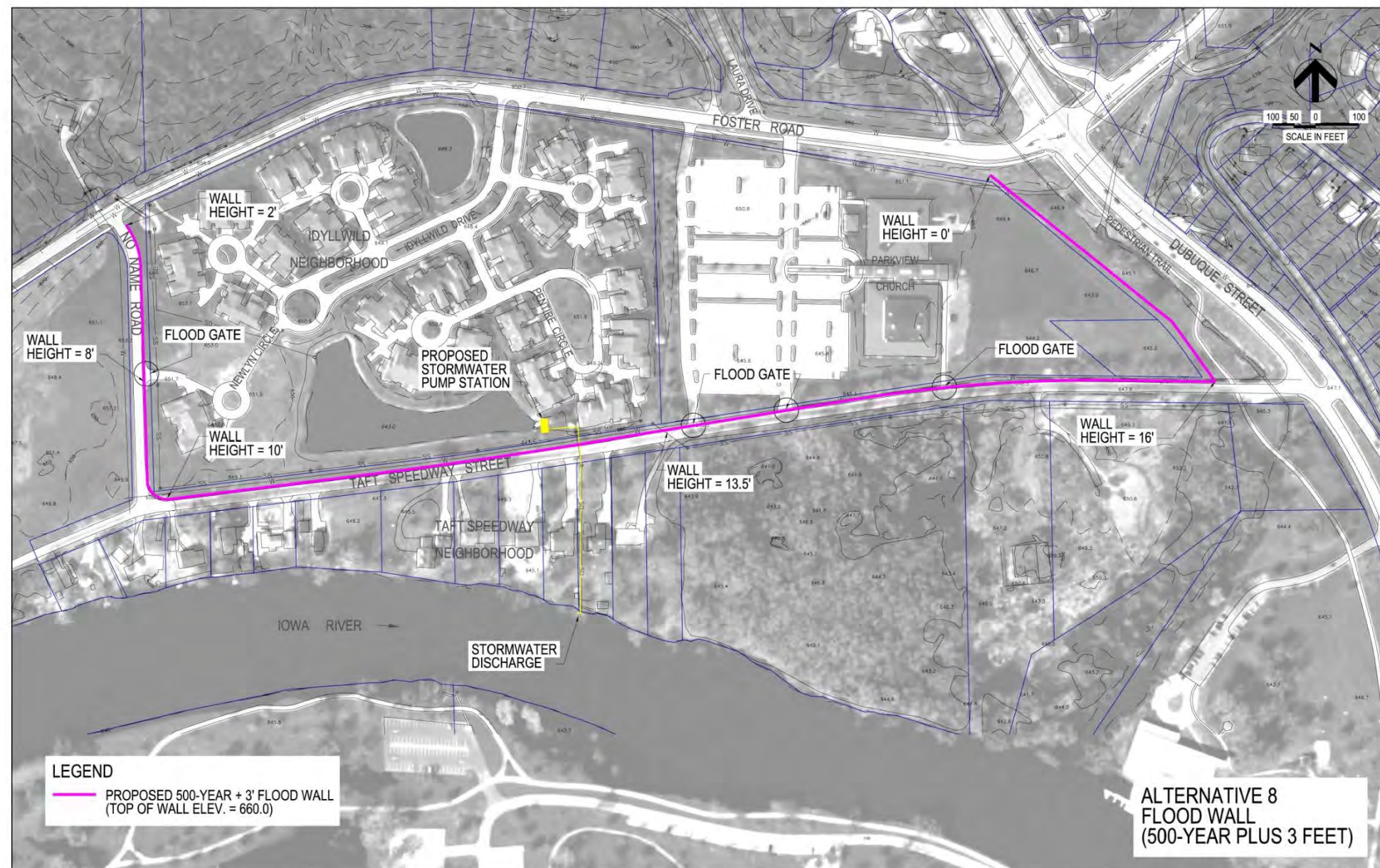
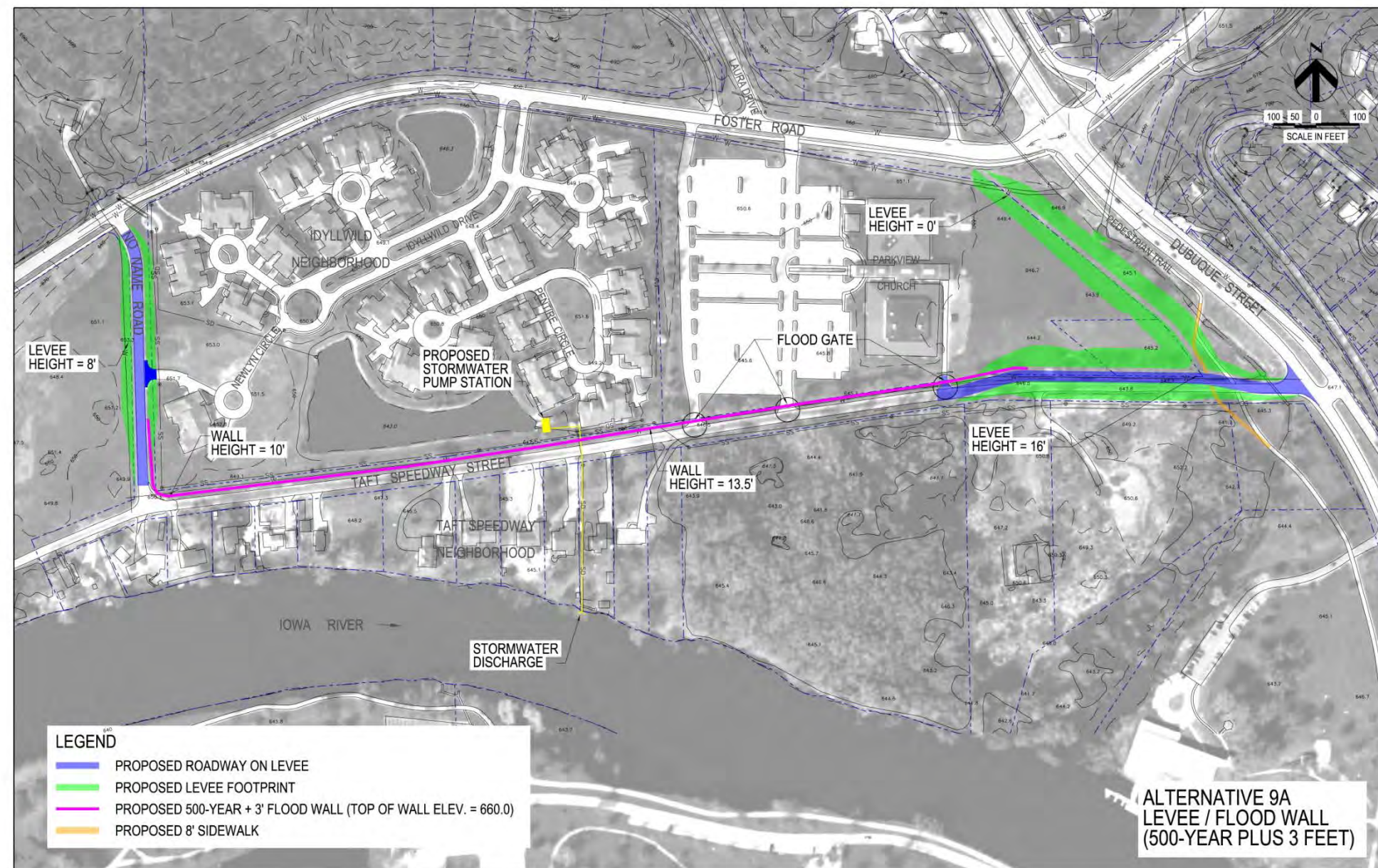


Figure 6: Alternative 9A

Alternative 9A Levee/Flood Wall (500-Year Plus 3 Feet)

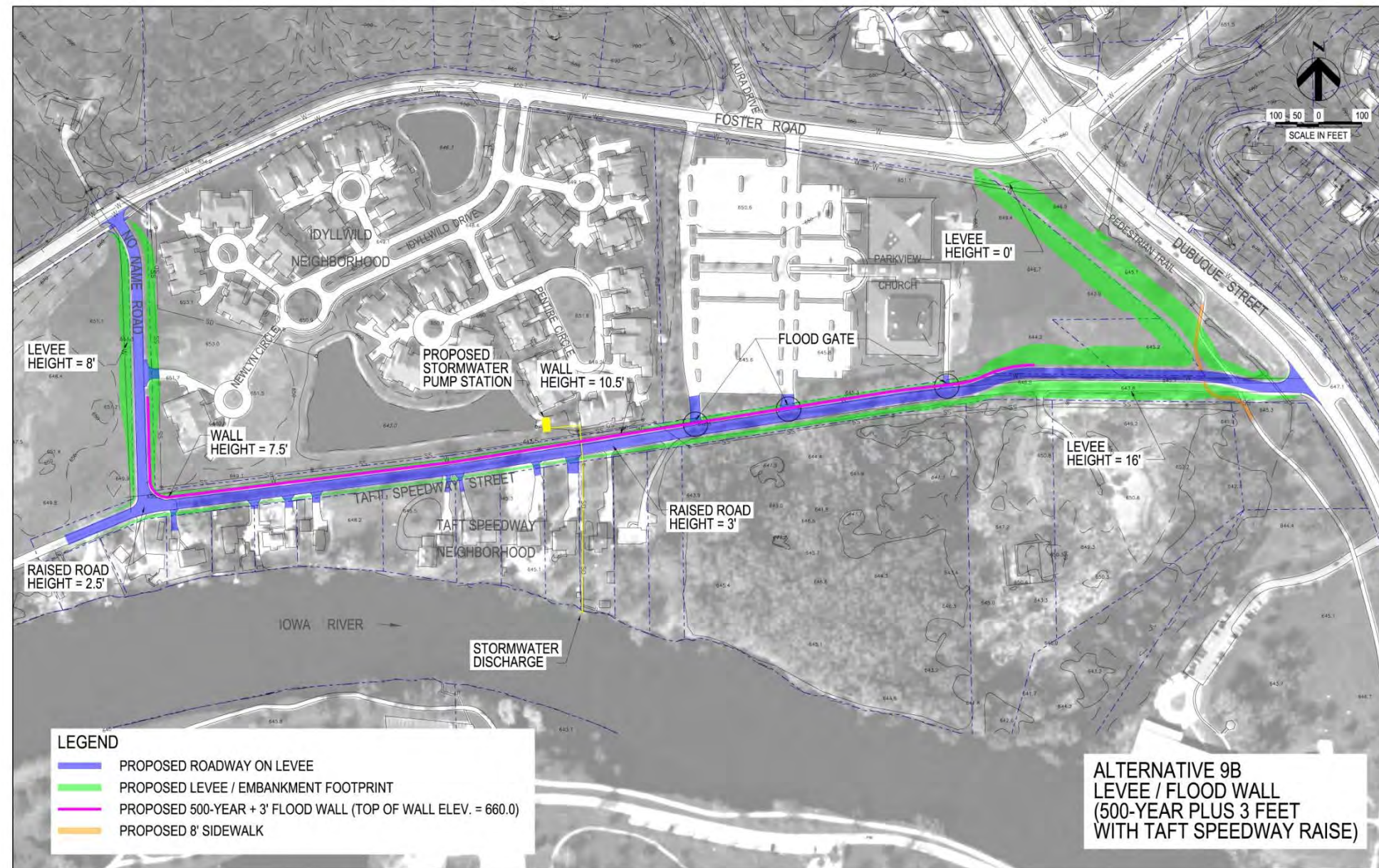


HDR — Taft Speedway Flood Mitigation Study



Figure 7: Alternative 9B

Alternative 9B Levee/Flood Wall (500-Year Plus 3 Feet with Taft Speedway Raise)

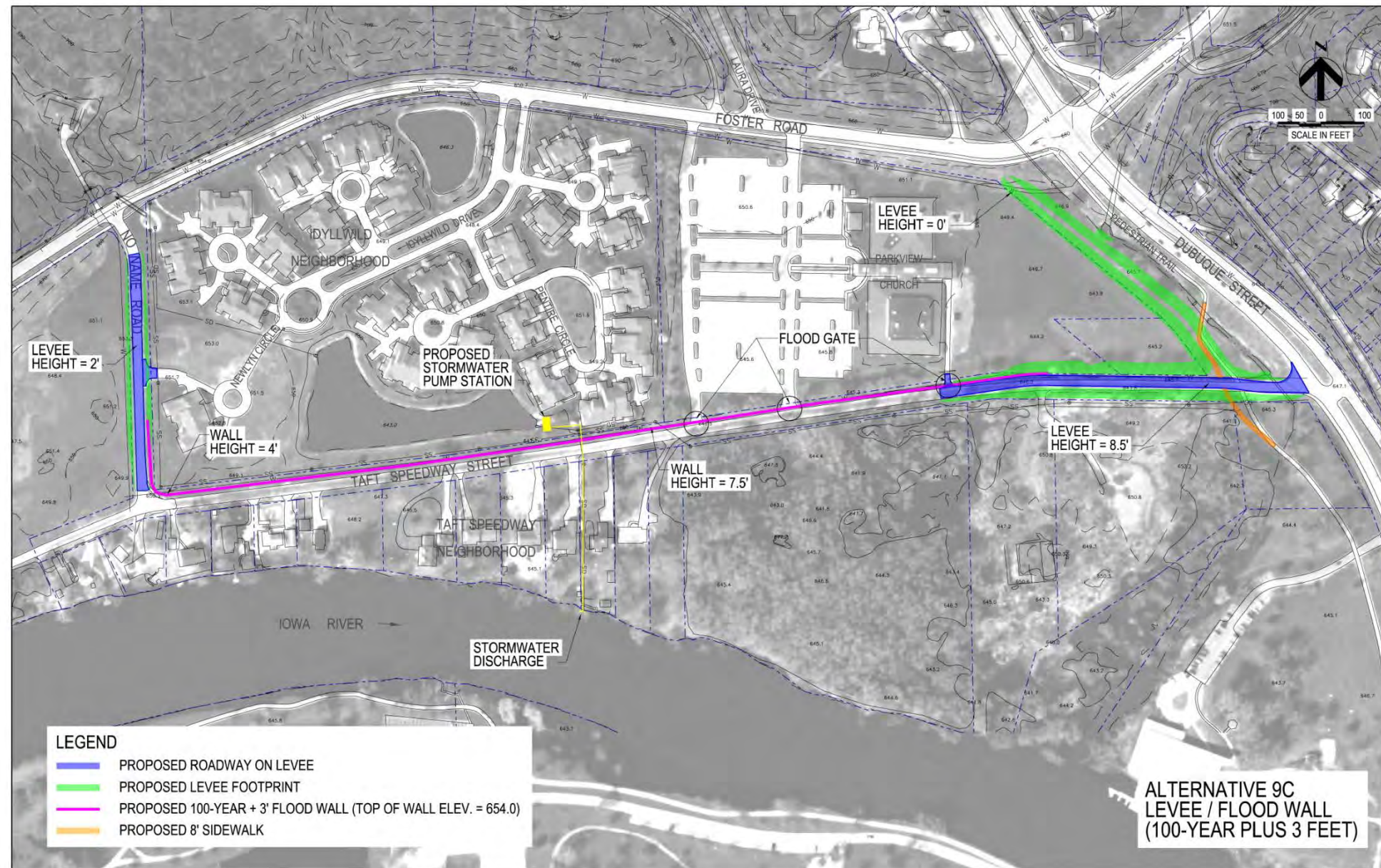


HDR — Taft Speedway Flood Mitigation Study



Figure 8: Alternative 9C

Alternative 9C Levee/Flood Wall (100-Year Plus 3 Feet)

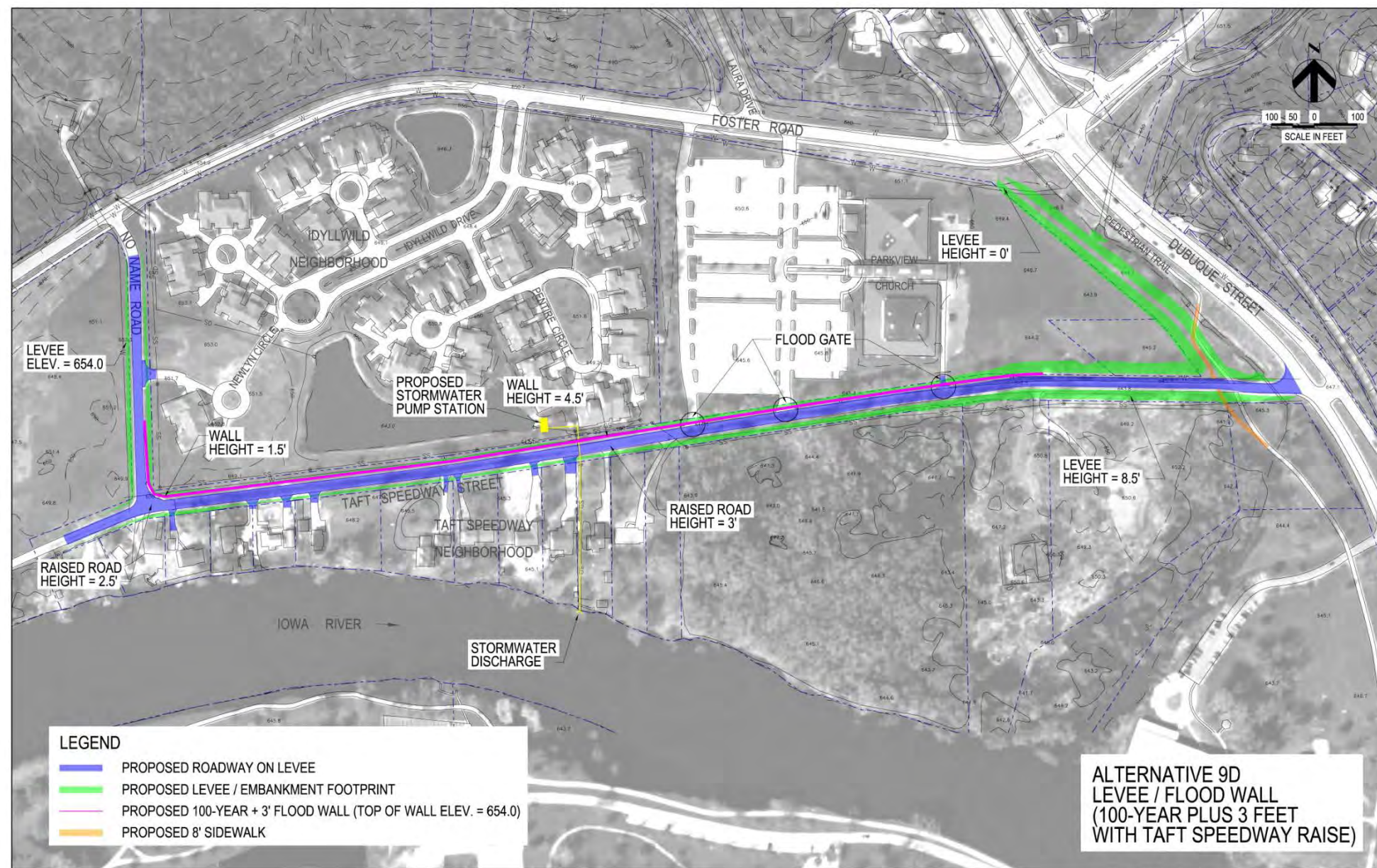


HDR — Taft Speedway Flood Mitigation Study



Figure 9: Alternative 9D

Alternative 9D Levee/Flood Wall (100-Year Plus 3 Feet with Taft Speedway Raise)



3.4 Design Criteria Assumptions

In developing the final list of alternatives, a set of design criteria assumptions were utilized to assist with assessing footprint, impacts, and cost. These assumptions are listed below.

1. Iowa City design criteria and the Iowa City Municipal Code were consulted for general requirements.
2. Minimize impacts to existing infrastructure.
3. Account for HMGP buyout lots.
4. Floodwall options considered include I-wall and T-wall designs. I-wall was used for wall heights at 10 feet or less. T-walls were used for wall heights greater than 10 feet.
5. T-walls consist of a spread footing. The footing width was assumed to be twice the height of the wall.
6. No Name Road and Taft Speedway would remain rural roadway sections. It is assumed that applicable variances would be acquired during the design phase.
7. Relief wells and toe drains were the two underseepage control measures considered. Relief wells were placed only in the area of the existing Idyllwild storm water pond directly north of Taft Speedway. Relief well placement was limited due to the level of operation and maintenance required to collect and manage the seepage generated from the wells. Toe drains are less maintenance intensive and utilize subsurface plumbing to manage the generated seepage. Relief wells were placed every 85 feet along the approximate 1,300-foot long pond. Toe drain was utilized elsewhere along the flood wall and/or levee alignment.
8. The levee section along Taft Speedway was placed to limit the impact to existing buildings and structures. This is the reasoning behind the 100-year design storm for Alternative 7. A 500-year levee along Taft Speedway would result in building and structure impacts.
9. The sidewalk impacted along Foster Road in Alternative 2B would be replaced with an 8-foot wide sidewalk section. This wider replacement would be part of Iowa City's Iowa River Corridor Trail expansion.
10. As a result of the public comment received from the first public meeting, a geotechnical engineering analysis was added to the project scope. The geotechnical analysis consisted of a total of 11 borings and three cone penetrometer tests. The borings were located along Taft Speedway, No Name Road, and south of Taft Speedway. The cone penetrometer tests located along No Name Road and Taft Speedway. The results include the following:
 - a. The geotechnical borings revealed that subsurface conditions consist of a mix of sand and clay with bedrock located between 21 and 42 feet below existing ground surface, depending on the boring location, generally deepening as you move towards the river. If seepage cut-off walls are considered during design, the walls would have to be drilled into the bedrock by a depth determined by geotechnical professionals during design.
 - b. Groundwater was encountered during drilling operations between 9 and 15 feet below existing ground surface; however, groundwater levels may vary depending on seasonal variations.
 - c. It was determined that construction of levees/floodwalls in this area is technically feasible.
 - d. See **Appendix D** for more details on the results of the geotechnical investigation.

4.0 IMPACT ANALYSIS

An impact analysis was performed to determine the potential project impacts for the eight alternatives developed during the screening process. This assessment included the following: environmental, land use, socioeconomic, cultural, transportation, and utility impacts. More detailed information regarding the impact analyses is provided in **Appendices A and B**.

4.1 Environmental

A desktop environmental analysis was included in the evaluation of the Project and Study areas (see **Figure 1**). No pedestrian survey or wetland delineations were performed. Preliminary evaluations indicate that potential impacts to threatened and endangered (T&E) species and wetlands may occur; however, it is anticipated that these potential impacts would be eliminated during the design phase. With the project potentially being partially funded using HUD funds, the environmental and archaeological review must be conducted in accordance with the National Environmental Policy Act (NEPA). A summary of the analyses conducted is provided below.

4.1.1 Hazardous Materials

There were no hazardous materials or waste sites identified as part of the desktop search. The closest site, a leaking underground storage tank (LUST), was closed in 2002. A Brownfields site located approximately one mile west of the Project Area was closed in 2007 because all contaminants were below statewide standards. Additional information can be found in Section Q of **Appendix B**.

4.1.2 Socio-economic

U.S. Census records were searched to determine the socio-economic status of property owners in the Study Area. It was determined that the Study Area population is more ethnically diverse than Iowa City. Additional information can be found in Section M of **Appendix B**. Since an environmental assessment is anticipated for this project, additional socio-economic analysis would include the review of property uses, ethnicity and economic status of the properties impacted by each of the screened alternatives to determine impact to Iowa City and the geographic area near the project location.

4.1.3 Archaeological Review

The IDED State Historic Preservation Office (SHPO) liaison provided site and background data to assist with the archaeological review. The review of these materials did not identify any known historic or archaeological sites within the Study Area. While no known sites were uncovered during the review of these materials, additional coordination is required during the environmental documentation process to complete the review. See Section F of **Appendix B** for more detailed information.

4.1.4 Wetlands

A wetland review was conducted as part of this flood mitigation study. The wetland review included the review of the National Wetlands Inventory (NWI) databases and maps. The review

of NWI resources identified various wetland types and approximate locations in the Study Area. Field wetland delineations would be required to identify the current wetland location and determine specific impacts with respect to the various alternatives. Due to the level of disturbance in the Project Area and the majority of project infrastructure being confined largely within the existing ROW, wetland impacts, if any, would potentially be located in areas adjacent to the existing Idyllwild storm water pond and at existing storm water outfalls. During design, it is anticipated that wetland impacts would be avoided or minimized.

4.1.5 T&E Species

Potential threatened or endangered species were reviewed by county listing with the U.S. Fish and Wildlife Service (USFWS) and Iowa Department of Natural Resources (Iowa DNR). Both federally and state-protected species were found to occur in Johnson County, Iowa. Additional coordination with USFWS and Iowa DNR will be required during the environmental documentation process. See Section G of **Appendix B** for more detailed information. Due to the level of disturbance in the Project Area and the majority of project infrastructure being confined largely within the existing ROW, threatened and endangered species impacts, if any, would potentially be located in areas of tree removal, areas adjacent to the existing Idyllwild storm water pond and at existing storm water outfalls. During design, it is anticipated that threatened and endangered species impacts would be avoided or minimized.

4.1.6 Land Use

There are several land use types in the Study Area, including residential, church property, manufactured home park, large wooded acreages, parks, and a golf course. The number of easements for the various alternatives would be determined during design. It is anticipated that property acquisition would be avoided or minimized to the extent practicable. Land acquisition would not be required outside of the Project Area. See Section A of **Appendix B** for more detailed information.

4.1.7 Transportation

The roadways in the Project Area include Dubuque Street to the east, Taft Speedway to the south, No Name Road to the west, and Foster Road to the north. The Iowa River Corridor Trail runs along Dubuque Street and Foster Road within the Project Area. The Iowa City Municipal Airport is approximately 2.4 miles south of the Project Area. No impacts are anticipated on the airport. The project would temporarily impact the roadways and Iowa River Corridor Trail during construction. However, the post-construction roadway and trail network would be identical to the pre-construction network. See Section O of **Appendix B** for more detailed information.

4.2 Utilities

According to information provided by Iowa City on its existing utility infrastructure, there are several existing utilities within the roadway ROWs in the Project Area. Existing utilities include overhead power lines, storm sewer, pressurized water mains and distribution mains, and sanitary sewers. The following provides a summary of utility impact for each of the screened flood mitigation alternatives. Figures of screened alternatives are included in **Section 3.0**.

Alternative 1: Do-Nothing Alternative

i. No Utility Impacts

Alternative 2B: Raise Foster Road

- i. Due to the additional embankment associated with the Foster Road raise, the three water mains along Foster Road would need to be raised to avoid issues with the burial depth. The water mains consist of an 8-inch, 16-inch, and 30-inch pipe with associated appurtenances, such as elbow bends, valves, and fire hydrants.
- ii. Due to the changes to Foster Road, approximately 20 curb inlets would have to be replaced at the new grade of the road, and reconnected to the existing storm sewer system. Additional analysis may be needed to verify whether the existing storm sewer is strong enough for the additional bury depth.
- iii. Due to the raised elevation of Foster Road, seven overhead electric transmission poles would need to be adjusted to continue to allow for minimum clearance beneath the overhead electric lines.

Alternative 7: Levee (100-Year Plus 3 Feet)

- i. Due to the impact of the levee bottom width and construction of the levee, the following sanitary sewer impacts were identified:
 1. The existing sanitary sewer north of Taft Speedway would need to be removed and replaced landward of the levee toe.
 2. The existing sanitary sewer system crossing the proposed location of the levee would be replaced to accommodate the levee footprint and the additional embankment.
 3. A proposed sanitary sewer collection system would be constructed south of the levee along Taft Speedway to provide connection points for the Taft Speedway residents. This would eliminate the need to maintain individual sanitary connections under the levee.
- ii. Due to the impact of the levee bottom width and construction of the levee, the following water main impacts were identified:
 1. The existing 12-inch water main north of Taft Speedway would need to be removed and replaced with a 12-inch water main landward of the levee toe.
 2. The existing 6-inch water connections that supply water to the Idyllwild neighborhood, south of Newlyn Circle, would need to be removed, replaced, and reconnected to the relocated 12-inch water main.
 3. The existing 12-inch water main west of No Name Road would need to be removed and replaced farther west of the levee toe
- iii. The sanitary sewer and water mains would need to retain their 10-foot horizontal separation after placement landward of the levee toe.
- iv. Due to the placement of the levee along Taft Speedway, the water connections to the south side of Taft Speedway would be buried deeper and would constitute the removal of critical levee sections for maintenance. In order to remove the need to maintain the water connections beneath the levee, a new 6-inch water main would be constructed south of the levee. This new water main would be used for water connections for the Taft Speedway residents.
- v. Due to the placement of the levee around the Idyllwild neighborhood and the Parkview Church, interior drainage needs to be accounted for. A new storm water pump station would be required that would pump interior drainage from the east side of the existing Idyllwild storm water pond to a new gate structure on the riverward side of the levee during larger events. The system would discharge to

the Iowa River with an outlet equipped with a backflow prevention device, such as a flap gate or duckbill valve.

- vi. The existing storm sewer system crossing Taft Speedway would be replaced to accommodate the levee bottom width and additional compacted fill of the levee. The existing gravity system would continue to operate during low river conditions and be equipped with a positive closure gate in addition to a flap gate or duckbill valve at the outlet.
- vii. Due to the raised elevation of Taft Speedway, 25 overhead electric transmission poles would need to be adjusted to continue to allow for minimum clearance beneath the overhead electric lines.

Alternative 8: Flood Wall (500-Year Plus 3 Feet)

- i. The flood wall in this scenario is anticipated to be T-wall with a spread footing based on wall height and I-wall with sheet pile foundation. It is assumed that the footing would be between 24 feet and 31 feet wide. The existing 12-inch water main north of Taft Speedway would need to be removed and replaced with a 12-inch water main to avoid the proposed flood wall footing.
- ii. The existing sanitary sewer system crossing the proposed location of the flood wall along Taft Speedway would be replaced to accommodate the flood wall location and depth.
- iii. A proposed sanitary sewer collection system would be constructed south of the flood wall along Taft Speedway to provide connection points for the Taft Speedway residents. This would eliminate the need to maintain individual sanitary connections under the flood wall.
- iv. The existing 6-inch water connections that supply water to the Idyllwild neighborhood, south of Newlyn Circle, would need to be reconnected to the replaced water main.
- v. Due to the placement of the flood wall along Taft Speedway, the water connections to the south side of Taft Speedway would require significant effort and cost to stabilize the flood wall during maintenance operations of each water connection. In order to remove the need to maintain the water connections beneath the flood wall, a new 6-inch water main would be constructed south of the Taft Speedway. This new water main would be used for water connections for the Taft Speedway residents. This water main would need to maintain a 10-foot horizontal separation from the sanitary sewer.
- vi. Due to the placement of the flood wall around the Idyllwild neighborhood and the Parkview Church, interior drainage needs to be accounted for. A new storm water pump station is required that would pump interior drainage from the east side of the existing Idyllwild storm water pond to a new gate structure on the south side of Taft Speedway during larger events. The system would discharge to the Iowa River with an outlet equipped with a backflow prevention device, such as a flap gate or duckbill valve.
- vii. The existing storm sewer system crossing Taft Speedway would be replaced to accommodate the flood wall and footing placement. The existing gravity system would continue to operate during low river conditions and be equipped with a positive closure gate in addition to a flap gate or duckbill valve at the outlet.

Alternative 9A: Levee/Flood Wall (500-Year Plus 3 Feet)

- i. The existing sanitary sewer system crossing the proposed location of the flood wall along Taft Speedway would be replaced to accommodate the flood wall location and depth

- ii. A proposed sanitary sewer collection system would be constructed south of the levee/flood wall along Taft Speedway to provide connection points for the Taft Speedway residents. This would eliminate the need to maintain individual sanitary connections under the flood wall.
 - iii. The existing 12-inch water main west of No Name Road would need to be removed and replaced farther west of the levee toe
 - iv. The flood wall in this scenario is anticipated to be T-wall with a spread footing based on wall height and I-wall with sheet pile foundation. It is assumed that the footing would be between 24 feet and 31 feet wide. The existing 12-inch water main north of Taft Speedway would need to be removed and replaced with a 12-inch water main to avoid the proposed flood wall footing.
 - v. The existing 6-inch water connections that supply water to the Idyllwild neighborhood, south of Newlyn Circle, would need to be reconnected to the replaced water main.
 - vi. Due to the placement of the flood wall along Taft Speedway, the water connections to the south side of Taft Speedway would require significant effort and cost to stabilize the flood wall during maintenance operations of each water connection. In order to remove the need to maintain the water connections beneath the flood wall, a new 6-inch water main would be constructed south of the Taft Speedway. This new water main would be used for water connections for the Taft Speedway residents. The water main would need to maintain a 10-foot horizontal separation from the sanitary sewer.
 - vii. Due to the levee bottom width and construction along No Name Road, the existing 12-inch water main west of No Name Road would need to be removed and replaced farther west of the levee toe.
 - viii. Due to the levee bottom width and construction along No Name Road, the existing sanitary sewer system east of No Name Road would need to be removed and replaced farther east of the levee toe.
 - ix. Due to the placement of the flood wall around the Idyllwild neighborhood and the Parkview Church, interior drainage needs to be accounted for. A new storm water pump station is required that would pump interior drainage from the east side of the existing Idyllwild storm water pond to a new gate structure on the south side of Taft Speedway during larger events. The system would discharge to the Iowa River with an outlet equipped with a backflow prevention device, such as a flap gate or duckbill valve.
 - x. The existing storm sewer system crossing Taft Speedway would be replaced to accommodate the flood wall and footing placement. The existing gravity system would continue to operate during low river conditions and be equipped with a positive closure gate in addition to a flap gate or duckbill valve at the outlet.
 - xi. Due to the elevation of the flood wall, 11 overhead electric transmission poles would need to be adjusted to continue to allow for minimum clearance beneath the overhead electric lines.
- Alternative 9B: Levee/Flood Wall With Taft Speedway Raise (500-Year Plus 3 Feet)
- i. The existing sanitary sewer system crossing the proposed location of the flood wall along Taft Speedway would be replaced to accommodate the flood wall location and depth.
 - ii. A proposed sanitary sewer collection system would be constructed south of the levee/flood wall along Taft Speedway to provide connection points for the Taft Speedway residents. This would eliminate the need to maintain individual sanitary connections under the flood wall.

- iii. The flood wall in this scenario is anticipated to be T-wall with a spread footing based on wall height and I-wall with sheet pile foundation. It is assumed that the footing would be between 22 feet and 26 feet wide. The existing 12-inch water main north of Taft Speedway would need to be removed and replaced with a 12-inch water main to avoid the proposed flood wall footing.
- iv. The existing 6-inch water connections that supply water to the Idyllwild neighborhood, south of Newlyn Circle, would need to be reconnected to the replaced water main.
- v. Due to the placement of the flood wall along Taft Speedway, the water connections to the south side of Taft Speedway would require significant effort and cost to stabilize the flood wall during maintenance operations of each water connection. In order to remove the need to maintain the water connections beneath the flood wall, a new 6-inch water main would be constructed south of the Taft Speedway. This new water main would be used for water connections for the Taft Speedway residents. This water main would need to maintain a 10-foot horizontal separation from the sanitary sewer.
- vi. Due to the levee bottom width and construction along No Name Road, the existing 12-inch water main west of No Name Road would need to be removed and replaced farther west of the levee toe.
- vii. Due to the levee bottom width and construction along No Name Road, the existing sanitary sewer system east of No Name Road would need to be removed and replaced farther east of the levee toe.
- viii. Due to the placement of the flood wall around the Idyllwild neighborhood and the Parkview Church, interior drainage needs to be accounted for. A new storm water pump station is required that would pump interior drainage from the east side of the existing Idyllwild storm water pond to a new gate structure on the south side of Taft Speedway during larger events. The system would discharge to the Iowa River with an outlet equipped with a backflow prevention device, such as a flap gate or duckbill valve.
- ix. The existing storm sewer system crossing Taft Speedway would be replaced to accommodate the flood wall and footing placement. The existing gravity system would continue to operate during low river conditions and be equipped with a positive closure gate in addition to a flap gate or duckbill valve at the outlet.
- x. Due to the elevation of the flood wall, 17 overhead electric transmission poles would need to be adjusted to continue to allow for minimum clearance beneath the overhead electric lines.

Alternative 9C: Levee/Flood Wall (100-Year Plus 3 Feet)

- i. The existing sanitary sewer system crossing the proposed location of the flood wall along Taft Speedway would be replaced to accommodate the flood wall location and depth.
- ii. A proposed sanitary sewer collection system would be constructed south of the levee/flood wall along Taft Speedway to provide connection points for the Taft Speedway residents. This would eliminate the need to maintain individual sanitary connections under the flood wall.
- iii. The flood wall in this scenario is anticipated to be I-wall with a sheet pile foundation. It is anticipated that the existing 12-inch water main north of Taft Speedway would need to be removed and replaced with a 12-inch water main due to the proximity of construction of the I-wall. This impact would be mitigated to the extent possible during design.

- iv. The existing 6-inch water connections that supply water to the Idyllwild neighborhood, south of Newlyn Circle, would need to be reconnected to the replaced water main.
 - v. Due to the placement of the flood wall along Taft Speedway, the water connections to the south side of Taft Speedway would require significant effort and cost to stabilize the flood wall during maintenance operations of each water connection. In order to remove the need to maintain the water connections beneath the flood wall, a new 6-inch water main would be constructed south of the Taft Speedway. This new water main would be used for water connections for the Taft Speedway residents. This water main would need to maintain a 10-foot horizontal separation from the sanitary sewer.
 - vi. Due to the levee bottom width and construction along No Name Road, the existing 12-inch water main west of No Name Road would need to be removed and replaced farther west of the levee toe.
 - vii. Due to the placement of the flood wall around the Idyllwild neighborhood and the Parkview Church, interior drainage needs to be accounted for. A new storm water pump station is required that would pump interior drainage from the east side of the existing Idyllwild storm water pond to a new gate structure on the south side of Taft Speedway during larger events. The system would discharge to the Iowa River with an outlet equipped with a backflow prevention device, such as a flap gate or duckbill valve.
 - viii. The existing storm sewer system crossing Taft Speedway would be replaced to accommodate the flood wall and footing placement. The existing gravity system would continue to operate during low river conditions and be equipped with a positive closure gate in addition to a flap gate or duckbill valve at the outlet.
 - ix. Due to the elevation of the flood wall, 17 overhead electric transmission poles would need to be adjusted to continue to allow for minimum clearance beneath the overhead electric lines.
- Alternative 9D: Levee/Flood Wall With Taft Speedway Raise (100-Year Plus 3 Feet)
- i. The existing sanitary sewer system crossing the proposed location of the flood wall along Taft Speedway would be replaced to accommodate the flood wall location and depth
 - ii. A proposed sanitary sewer collection system would be constructed south of the levee/flood wall along Taft Speedway to provide connection points for the Taft Speedway residents. This would eliminate the need to maintain individual sanitary connections under the flood wall.
 - iii. The flood wall in this scenario is anticipated to be I-wall with a sheet pile foundation. It is anticipated that the existing 12-inch water main north of Taft Speedway would need to be removed and replaced with a 12-inch water main due to the proximity of construction of the I-wall. This impact would be mitigated to the extent possible during design.
 - iv. The existing 6-inch water connections that supply water to the Idyllwild neighborhood, south of Newlyn Circle, would need to be reconnected to the replaced water main.
 - v. Due to the placement of the flood wall along Taft Speedway, the water connections to the south side of Taft Speedway would require significant effort and cost to stabilize the flood wall during maintenance operations of each water connection. In order to remove the need to maintain the water connections beneath the flood wall, a new 6-inch water main would be constructed south of the Taft Speedway. This new water main would be used for water connections

- for the Taft Speedway residents. This water main would need to maintain a 10-foot horizontal separation from the sanitary sewer.
- vi. Due to the levee bottom width and construction along No Name Road, the existing 12-inch water main west of No Name Road would need to be removed and replaced farther west of the levee toe.
- vii. Due to the placement of the flood wall around the Idyllwild neighborhood and the Parkview Church, interior drainage needs to be accounted for. A new storm water pump station is required that would pump interior drainage from the east side of the existing Idyllwild storm water pond to a new gate structure on the south side of Taft Speedway during larger events. The system would discharge to the Iowa River with an outlet equipped with a backflow prevention device, such as a flap gate or duckbill valve.
- viii. The existing storm sewer system crossing Taft Speedway would be replaced to accommodate the flood wall and footing placement. The existing gravity system would continue to operate during low river conditions and be equipped with a positive closure gate in addition to a flap gate or duckbill valve at the outlet.
- ix. Due to the elevation of the flood wall, 17 overhead electric transmission poles would need to be adjusted to continue to allow for minimum clearance beneath the overhead electric lines.

4.3 Existing Infrastructure

In addition to environmental and utility impacts, the proposed flood mitigation alternatives would have infrastructure impacts, including sidewalk replacement, driveway entrance reconstruction, and road replacement. The following provides a summary of infrastructure impacts in accordance with each proposed final flood mitigation alternative. Figures of screened alternatives are included in Section 3.0.

Alternative 1: Do-Nothing Alternative

- i. No infrastructure impacts

Alternative 2B: Raise Foster Road

- i. Foster Road would need to be reconstructed on top of the compacted embankment. Foster Road would be reconstructed as an urban section with curb and gutter, consistent with existing conditions.
- ii. The intersections of Foster Road with No Name Road, Idyllwild Drive, and the westernmost entrance to the Parkview Church parking lot would need to be reconstructed.
- iii. The existing sidewalk south of Foster Road would need to be replaced. It is proposed that the existing sidewalk be replaced with the 8-foot-wide section.

Alternative 7: Levee (100-Year Plus 3 Feet)

- i. Taft Speedway and No Name Road would need to be reconstructed on top of the compacted levee fill. Taft Speedway and No Name Road would be reconstructed as a rural road section. The road embankment would be located within the levee cross section. Given this condition, additional requirements regarding soil type and compaction may be required.
- ii. The intersections of Taft Speedway with the parking lot entrances to the Parkview Church and the access road entrance for Parkview Church would need to be reconstructed.
- iii. The intersection of No Name Road with the entrance to the Idyllwild neighborhood would need to be reconstructed.

- iv. Taft Speedway, west of No Name Road, would need to be reconstructed as the road embankment is transitioned from the top of levee to the existing roadway elevation.
 - v. Nine driveway entrances on the south side of Taft Speedway would need to be reconstructed to transition from the top of levee to the existing grade of the driveway.
 - vi. The Iowa River Corridor Trail would need to be reconstructed west of Dubuque Street where the trail intersects the levee.
- Alternative 8: Flood Wall (500-Year Plus 3 Feet)
- i. Flood gates would be required at the following intersections:
 - i. No Name Road with the entrance to the Idyllwild neighborhood
 - ii. Taft Speedway with the parking lot entrances for Parkview Church and the access road for Parkview Church
- Alternative 9A: Levee/Flood Wall (500-Year Plus 3 Feet)
- i. Taft Speedway and No Name Road would need to be reconstructed on top of the compacted levee fill. Taft Speedway and No Name Road would be reconstructed as a rural road section. The road embankment would be located within the levee cross section. Given this condition, additional requirements regarding soil type and compaction may be required.
 - ii. Flood gates would be required at the intersection of Taft Speedway with the parking lot entrances to Parkview Church and the access road for Parkview Church.
 - iii. The intersections of No Name Road with the Idyllwild neighborhood entrance road and Taft Speedway with the access road for Parkview Church would need to be reconstructed.
 - iv. The Iowa River Corridor Trail would need to be reconstructed west of Dubuque Street where the trail intersects the levee.
- Alternative 9B: Levee/Flood Wall With Taft Speedway Raise (500-Year Plus 3 Feet)
- i. Taft Speedway and No Name Road would need to be reconstructed on top of the compacted levee fill. Taft Speedway and No Name Road would be reconstructed as a rural road section. The road embankment would be located within the levee cross section. Given this condition, additional requirements regarding soil type and compaction may be required.
 - ii. Flood gates would be required at the intersection of Taft Speedway with the parking lot entrances to Parkview Church and the access road for Parkview Church.
 - iii. The intersections of Taft Speedway with the parking lot entrances to the Parkview Church and the access road entrance for Parkview Church would need to be reconstructed.
 - iv. The intersection of No Name Road with the entrance to the Idyllwild neighborhood would need to be reconstructed.
 - v. Taft Speedway, west of No Name Road, would need to be reconstructed as the road embankment is transitioned from the top of levee to the existing roadway elevation.
 - vi. Nine driveway entrances on the south side of Taft Speedway would need to be reconstructed to transition from the top of levee to the existing grade of the driveway.
 - vii. The Iowa River Corridor Trail would need to be reconstructed west of Dubuque Street where the trail intersects the levee.

- viii. Some sidewalk replacement would be required south of Foster Road at the intersection with No Name Road.

Alternative 9C: Levee/Flood Wall (100-Year Plus 3 Feet)

- i. Taft Speedway and No Name Road would need to be reconstructed on top of the compacted levee fill. Taft Speedway and No Name Road would be reconstructed as a rural road section. The road embankment would be located within the levee cross section. Given this condition, additional requirements regarding soil type and compaction may be required.
- ii. Flood gates would be required at the intersection of Taft Speedway with the parking lot entrances to Parkview Church and the access road for Parkview Church.
- iii. The intersections of No Name Road with the Idyllwild neighborhood entrance road and Taft Speedway with the access road for Parkview Church would need to be reconstructed.
- iv. The Iowa River Corridor Trail would need to be reconstructed west of Dubuque Street where the trail intersects the levee.

Alternative 9D: Levee/Flood Wall With Taft Speedway Raise (500-Year Plus 3 Feet)

- i. Taft Speedway and No Name Road would need to be reconstructed on top of the compacted levee fill. Taft Speedway and No Name Road would be reconstructed as a rural road section. The road embankment would be located within the levee cross section. Given this condition, additional requirements regarding soil type and compaction may be required.
- ii. Flood gates would be required at the intersection of Taft Speedway with the parking lot entrances to Parkview Church and the access road for Parkview Church.
- iii. The intersections of Taft Speedway with the parking lot entrances to the Parkview Church and the access road entrance for Parkview Church would need to be reconstructed.
- iv. The intersection of No Name Road with the entrance to the Idyllwild neighborhood would need to be reconstructed.
- v. Taft Speedway, west of No Name Road, would need to be reconstructed as the road embankment is transitioned from the top of levee to the existing roadway elevation.
- vi. Nine driveway entrances on the south side of Taft Speedway would need to be reconstructed to transition from the top of levee to the existing grade of the driveway.
- vii. The Iowa River Corridor Trail would need to be reconstructed west of Dubuque Street where the trail intersects the levee.

4.4 Hydraulics

HR Green analyzed the seven alternatives that included infrastructure improvements by inserting them into the Iowa River HEC-RAS model. The proposed alternatives were analyzed using both the existing conditions model and the model with the Park Road and Dubuque Street improvements. The results of the analysis are presented in **Appendix A**. The results show the seven proposed alternatives with infrastructure improvements have minimal impacts on Iowa River WSELs based upon refined modeling specific to each alternative. **Table 3** below provides a summary of the hydraulic results. These results are the same for each alternative, therefore, only one set of results are presented.

Table 3: Summary of Proposed Alternative Hydraulic Impact³

Flood Event (Year)	Intersection Rocky Shore Drive and Park Road		500 Feet Upstream of No Name Road	
	Impacts of Alternative Alone ¹	Impacts of Alternative With Park Road and Dubuque Street Improvements ²	Impacts of Alternative Alone ¹	Impacts of Alternative With Park Road and Dubuque Street Improvements ²
10	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

- 1) WSEL impacts based on comparisons to Iowa River hydraulic conditions with all constructed, under-construction, designed, or planned improvements (except Park Road and Dubuque Street improvements in place).
- 2) WSEL impacts based on comparisons to Iowa River hydraulic conditions with all constructed, under-construction, designed, or planned improvements (including Park Road and Dubuque Street improvements) in place.
- 3) Hydraulic modeling provided by HR Green Company under contract to Iowa City.

4.5 Aesthetics

The seven proposed alternatives for flood mitigation have varying degrees of aesthetic impacts to the public. The following paragraphs describe the impacts on the residents north of Foster Road, in Idyllwild, and along Taft Speedway.

Alternative 2B would involve raising Foster Road approximately eight feet above existing grade. This additional embankment would provide access to the Peninsula area during high Iowa River WSELs. Only anticipated impact to aesthetics is the raised road embankment.

Alternative 7 would involve raising Taft Speedway a maximum of 8.5 feet and No Name Road approximately two feet above existing grade. This additional embankment would likely obstruct the views of the Iowa River from Idyllwild residents and would alter the views of the Taft Speedway residents looking north. The existing trees on the north and south sides of Taft Speedway would need to be removed or relocated as a result of the levee bottom width and utility placement, impacting residents and visitors.

Alternative 8 would involve the construction of a flood wall along Taft Speedway and No Name Road. The flood wall would be between 10 and 16 feet above existing grade. This flood wall would obstruct the view of the Iowa River from Idyllwild residents. Existing trees on the north and south side of Taft Speedway may be impacted due to utility placement. Taft Speedway residents would see the flood wall on the other side of Taft Speedway. Aesthetic treatments could be incorporated into the wall that may lessen the visual impact. These treatments were not included in the alternative cost opinions.

Alternative 9A would involve the construction of a flood wall and a levee along Taft Speedway and No Name Road. The flood wall would be between 10 and 14 feet above existing grade. While the floodwall flood mitigation level is the same as provided in Alternative 8, Alternative 9A is a combination of a levee and floodwall. Since the floodwall is not located along the entire alignment, the maximum height is less than provided in Alternative 8. The levee would be a maximum of 16 feet above grade. The flood wall would obstruct the view of the Iowa River from the Idyllwild residents. Taft Speedway residents would see the flood wall on the other side of Taft Speedway as well as the levee farther to the east. The existing trees on the north and south sides of Taft Speedway would need to be removed or relocated as a result of the levee bottom width and utility placement, impacting residents and visitors. Aesthetic treatments could be incorporated into the wall that may lessen the visual impact. These treatments were not included in the alternative cost opinions.

Alternative 9B would involve the construction of a flood wall and levee along Taft Speedway and No Name Road. It would also involve raising Taft Speedway. The flood wall would be between 7.5 to 11 feet above proposed grade. The levee would be a maximum of 16 feet above existing grade. Taft Speedway would be raised between two to four feet above existing grade. This alternative provides the same level of flood mitigation as Alternative 9A. The height of the floodwall above grade has been revised due to the additional fill provided to raise Taft Speedway. The flood wall would obstruct the view of the Iowa River from the Idyllwild residents. Taft Speedway residents would see the flood wall on the other side of Taft Speedway as well as the higher road profile, and levee to the east. The existing trees on the north and south sides of Taft Speedway would need to be removed or relocated as a result of the levee bottom width and utility placement, impacting residents and visitors. Aesthetic treatments could be incorporated

into the wall that may lessen the visual impact. These treatments were not included in the alternative cost opinions.

Alternative 9C would involve the construction of a flood wall and a levee along Taft Speedway and No Name Road. The flood wall would be between 4 and 8 feet above existing grade. The levee would be a maximum of 8.5 feet above grade. The flood wall would obstruct the view of the Iowa River from the Idyllwild residents. Taft Speedway residents would see the flood wall on the other side of Taft Speedway as well as the levee farther to the east. The existing trees on the north and south sides of Taft Speedway would need to be removed or relocated as a result of the levee bottom width and utility placement, impacting residents and visitors. Aesthetic treatments could be incorporated into the wall that may lessen the visual impact. These treatments were not included in the alternative cost opinions.

Alternative 9D would involve the construction of a flood wall and levee along Taft Speedway and No Name Road. It would also involve raising Taft Speedway. The flood wall would be between 1.5 to 5 feet above proposed grade. The levee would be a maximum of 8.5 feet above existing grade. Taft Speedway would be raised between two to four feet above existing grade. This alternative provides the same level of flood mitigation as Alternative 9C. The height of the floodwall above grade has been revised due to the additional fill provided to raise Taft Speedway. The flood wall would obstruct the view of the Iowa River from the Idyllwild residents. Taft Speedway residents would see the flood wall on the other side of Taft Speedway as well as the higher road profile, and levee to the east. The existing trees on the north and south sides of Taft Speedway would need to be removed or relocated as a result of the levee bottom width and utility placement, impacting residents and visitors. Aesthetic treatments could be incorporated into the wall that may lessen the visual impact. These treatments were not included in the alternative cost opinions.

Table 4 below provides a summary of each alternative with respect to levee and floodwall height above existing grade.

Table 4: Comparison of Levee and Floodwall Heights

Alternative	Floodwall Heights Above Grade		Levee Heights Above Grade	
	Minimum (ft)	Maximum (ft)	Minimum (ft)	Maximum (ft)
7	---	---	2	8.5
8	10	16	---	---
9A*	10	14	8	16
9B*	7.5	11	8	16
9C*	4	8	2	8.5
9D*	1.5	5	2	8.5

*Alternatives 9B and 9D include a grade raise of Taft Speedway, resulting in shorter levee and floodwall heights above grade. The top of levee/wall elevation is the same for 9A and 9B; likewise the top of levee/wall elevation for 9C and 9D is the same.

See **Appendix C** for a rendering of a few of the proposed project features and examples of aesthetic treatments that can be applied to the floodwall.

Public concern was also noted regarding potential aesthetic impacts to visitors at City Park. Views of Taft Speedway are partially obstructed by existing residential development south of Taft Speedway, especially during the growing season when vegetation further obstructs direct views of Taft Speedway. Alternatives consisting of levee/floodwalls along No Name Road and

Taft Speedway will therefore be partially visible by park visitors, although the visual impacts are considered minor.

4.6 Other Impacts

Through the public involvement process associated with this project, other impacts were mentioned warranting consideration. These impacts are listed below.

4.6.1 Flood Insurance

All flood mitigation alternatives evaluated in this study was developed to be compliant with FEMA Levee Certification Guidelines. Levee and/or floodwall certification would involve the submittal of the design, construction, and operation and maintenance specific documentation proving that the levee and/or floodwall meets the requirements of Title 44 Code of Federal Regulations Section 65.10 (44CFR65.10). Proposed improvements could result in floodplain modifications if the alternative is recognized by FEMA as providing a 1-percent-annual-chance level of protection. If a flood mitigation alternative is certified by FEMA, the area behind the levee and/or floodwall would still be considered part of the floodplain and would only change the zone designation. This area would change from Zone AE to a Zone X which means that mandatory flood insurance would not be required, but optional could still be purchased. However, this change would not go into effect until the FIRM has been revised to show the different zones. Because the hydraulic analysis has shown that the various flood mitigation alternatives would not negatively impact WSELs, the floodplain on the river side of the levee would not change. Therefore, insurance for the residents not protected by the proposed alternatives would not change.

4.6.2 Floodplain Extent

Figure 2 shows the current extents for the Zone AE (1% annual chance) and shaded Zone X (0.2% annual chance) floodplains. The proposed improvements associated with the screened alternatives identified herein would result in floodplain modifications. Those modifications would be reflected on revised FIRMs if the levee and/or flood wall is certified with FEMA. Levee and/or flood wall certification would involve the submittal of the design, construction and operation and maintenance specific documentation proving that the levee and/or flood wall meets the requirements of Title 44 of the Code of Federal Regulations Section 65.10 (44CFR65.10).

The following includes anticipated modifications the screened alternatives would have on the FIRM. The anticipated modifications provided below are based upon the conceptual screened alternatives developed during this Project. Design enhancements and changes and final hydraulic modeling results have the potential of modifying the floodplain boundary modifications.

- A. Alternative 2B: This alternative would modify the 100-year and 500-year floodplain boundaries north of Foster Road between No Name Road and Idyllwild Drive.
- B. Alternative 7: This alternative would modify the 100-year boundary east of No Name Road, north of Taft Speedway, and west of Dubuque Street. The 500-year floodplain would be redefined within the Project Area.
- C. Alternative 8: This alternative would modify the 100-year and 500-year floodplain boundaries east of No Name Road, north of Taft Speedway, and west of Dubuque Street.

- D. Alternatives 9A and 9B: These alternatives would modify the 100-year and 500-year floodplain boundaries east of No Name Road, north of Taft Speedway, and west of Dubuque Street.
- E. Alternatives 9C and 9D: These alternatives would modify 100-year boundary east of No Name Road, north of Taft Speedway, and west of Dubuque Street. The 500-year floodplain would be redefined within the Project Area.

4.6.3 Property Acquisition

Each of the screened alternatives presented herein would require additional property for the permanent footprint and/or for construction. It is anticipated that additional property would be secured through permanent easements and temporary construction easements. The following paragraphs describe the additional property required for the alternatives.

Alternative 2B: Temporary construction easements and additional permanent easements would be required for this alternative.

- i. Additional permanent easements would be required both north of Foster Road from adjacent property owners and south of Foster Road from the Idyllwild neighborhood.
- ii. Temporary construction easements would be required beyond the footprint of the proposed alternative, shown in **Figure 3**, to enable construction.

Alternative 7: Temporary construction easements and permanent easements would be required for this alternative.

- i. Permanent easements would be required primarily to the north of Taft Speedway from Parkview Church and the Idyllwild neighborhood for the permanent footprint of the levee and for utility placement.
- ii. Permanent easements would be required south of Taft Speedway in the vicinity of Taft Speedway residents for utility placement.
- iii. A permanent easement would be required at the location of the permanent pump station.
- iv. Temporary construction easements would be required at each access road and driveway that would need to be reconstructed as a result of the levee embankment and for areas beyond the footprint of the levee, shown in **Figure 4**, to enable construction.

Alternative 8: Temporary construction and permanent easements would be required for this alternative.

- i. A permanent easement would be required at the location of the permanent pump station.
- ii. Permanent easements would be required north of Taft Speedway for utility placement.
- iii. Temporary construction easements would be required beyond the footprint of the flood wall, as shown in **Figure 5**, to enable construction.

Alternative 9A: Temporary construction easements and permanent easements would be required for this alternative.

- i. Permanent easements would be required primarily along No Name Road, north of Taft Speedway east of Parkview Church, and along Dubuque Street.
- ii. Permanent easements would be required north of Taft Speedway for utility placement.
- iii. Permanent easements would be required at the location of the permanent pump station.
- iv. Temporary construction easements would be required at each access road and driveway that would need to be reconstructed as a result of the levee

embankment and for areas beyond the footprint of the levee, shown in **Figure 6**, to enable construction. The access roads include those for Parkview Church and the entrance to the Idyllwild neighborhood.

Alternative 9B: Temporary construction easements and permanent easements would be required for this alternative.

- i. Permanent easements would be required primarily along No Name Road, north of Taft Speedway east of Parkview Church, and along Dubuque Street.
- ii. Permanent easements would be required north of Taft Speedway for utility placement.
- iii. Permanent easements would be required at the location of the permanent pump station.
- iv. Temporary construction easements would be at each access road and driveway that would need to be reconstructed as a result of the levee embankment and for areas required beyond the footprint of the levee, shown in **Figure 7**, to enable construction. These driveway and access roads include the driveways for the Taft Speedway residents south of Taft Speedway, the access road for Parkview Church and the entrance to the Idyllwild neighborhood.

Alternative 9C: Temporary construction easements and permanent easements would be required for this alternative.

- i. Permanent easements would be required primarily north of Taft Speedway east of Parkview Church and along Dubuque Street.
- ii. Permanent easements would be required north of Taft Speedway for utility placement.
- iii. Permanent easements would be required at the location of the permanent pump station.
- iv. Temporary construction easements would be required at each access road and driveway that would need to be reconstructed as a result of the levee embankment and for areas beyond the footprint of the levee, shown in **Figure 8**, to enable construction. These access roads include the access road for Parkview Church and the entrance to the Idyllwild neighborhood.

Alternative 9D: Temporary construction easements and permanent easements would be required for this alternative.

- i. Permanent easements would be required primarily north of Taft Speedway east of Parkview Church and along Dubuque Street.
- ii. Permanent easements would be required north of Taft Speedway for utility placement.
- iii. Permanent easements would be required at each driveway and access road that would need to be reconstructed as a result of the levee embankment and at the location of the permanent pump station.
- iv. Temporary construction easements would be required at each access road and driveway that would need to be reconstructed as a result of the levee embankment and for areas beyond the footprint of the levee, shown in **Figure 9**, to enable construction. These driveway and access roads include the driveways for the Taft Speedway residents south of Taft Speedway, the access road for Parkview Church and the entrance to the Idyllwild neighborhood.

4.6.4 Value of Property Protected

The value of property protected associated with the flood mitigation alternatives presented herein include the assessed land value of the property, number of buildings, and land area. The specific value for each alternative are provided below. The assessed land value and number of

buildings were obtained from the Johnson County and Iowa City Assessor's database in June 2012. The assessed land value is for the land value only. The value of buildings or other improvements documented in the assessor's database are listed below in addition to the land value estimates.

- A. Alternative 2B: The raising of Foster Road does not provide direct mitigation for properties north of the road. The intent of this alternative is to maintain access to the Peninsula area during a 500-year flood event. The following benefits provided below are relative to the area accessible by Foster Road due to maintained access during 500-year Iowa River WSELs.
 - i. The approximate assessed land value for the Peninsula Area, accessible by Foster Road, is \$9,713,220.
 - ii. There are approximately 171 structures within the Peninsula Area accessible by Foster Road.
 - iii. The approximate land area of the Peninsula Area, accessible by Foster Road, is 692 acres.
- B. Alternatives 7, 9C, and 9D: These alternatives provide flood mitigation to the 100-year flood level. The benefits identified below also include area located within the area bounded by the levee alignment to the west, Foster Road to the north, the levee alignment to the east, and the levee/flood wall alignment to the south. The area within the 500-year floodplain limits were not removed from these benefit areas.
 - i. The approximate assessed land value for the area interior of the levee/flood wall alignment is \$498,250.
 - ii. The approximate assessed values for the condominiums interior of the levee/flood wall alignment is approximately \$10,491,970, based upon 2012 assessed dwelling value as reported by the Johnson County, Iowa Assessor. The range of each condominium's dwelling only value ranges from approximately \$90,000 to \$150,000. There are approximately 92 condominiums currently being assessed within the Idyllwild neighborhood. There are 12 additional parcel ID numbers assigned by the Johnson County assessor without a dwelling value assigned, corresponding to future units.
 - iii. The condominium units are taxed on both their land value and dwelling value combined. The estimated tax rate applied to these units is approximately 1.6 percent, resulting in an approximate tax revenue of \$170,000 per year. In looking at Johnson County Assessor records, the condominium values appear to have been devalued by approximately 25 to 40 percent due to impacts from the 2008 flood event.
 - iv. The approximate assessed value for Parkview Church is \$4,544,320.
 - v. There are approximately 24 structures within the levee/flood wall interior.
 - vi. The approximate land area interior to the levee/flood wall alignment area is 33.6 acres.
- C. Alternatives 8, 9A, and 9B: These alternatives provide flood mitigation to the 500-year flood level. The benefits identified below also include area located within the area bounded by the levee alignment to the west, Foster Road to the north, the levee alignment to the east, and the levee/flood wall alignment to the south.
 - i. The approximate assessed land value for the area within the levee/flood wall alignment is \$498,250.
 - ii. The approximate assessed values for the condominiums interior of the levee/flood wall alignment is approximately \$10,491,970, based upon 2012 assessed dwelling value as reported by the Johnson County, Iowa Assessor. The range of each condominium's dwelling only value ranges from approximately

\$90,000 to \$150,000. There are approximately 92 condominiums currently being assessed within the Idyllwild neighborhood. There are 12 additional parcel ID numbers assigned by the Johnson County assessor without a dwelling value assigned, corresponding to future units.

- iii. The condominium units are taxed on both their land value and dwelling value combined. The estimated tax rate applied to these units is approximately 1.6 percent, resulting in an approximate tax revenue of \$170,000 per year. In looking at Johnson County Assessor records, the condominium values appear to have been devalued by approximately 25 to 40 percent due to impacts from the 2008 flood event.
- iv. The approximate assessed value for Parkview Church is \$4,544,320.
- v. There are approximately 24 structures within the levee/flood wall alignment.
- vi. The approximate land area within the levee/flood wall alignment area is 33.6 acres.

4.6.5 Residual Risk

Despite the flood mitigation offered by the alternatives described herein, there is still a residual risk associated with the mitigation alternatives. These residual risks are described in more detail below.

1. The 2008 flood event, based upon peak flow and WSEL, was between the identified 100-year and 500-year floods. There is a possibility that a flood event higher than the currently defined 500-year flood could happen along the Iowa River. Should such a flood event occur the current top of levee/flood wall would be overtopped and result in flooding of the interior area.
2. Interior flooding is a risk with the levee/flood wall options. While a storm water pump station and backflow prevention devices to the outfalls at the Iowa River are proposed, these measures may not be sufficient due to variability of interior storm events, expected flood timeframes along the Iowa River, and ground water levels in response to precipitation and river flooding events. During significant flooding events, seepage under the levee/flood wall and high ground water tables could produce surface flooding within the levee/flood wall interior. The dependence upon the mechanics of the storm water pump station does present a risk factor for interior flooding; however, this can be mitigated by incorporating redundancy in the design of the storm water pump station.

5.0 PUBLIC INVOLVEMENT

For this flood mitigation study, it was essential that the public be informed and involved through the duration of the project. Gathering public input and comments on the project, alternatives, and study findings was conducted in a variety of methods, as described in more detail below.

5.1 Public Engagement

Information on the project was communicated to the public by a series of public meetings, described in more detail below, and through a series of public engagement resources. The public engagement resources utilized during the course of this project included a project website managed by Iowa City, a project website managed by HDR, and items sent through the mail by Iowa City to inform the residents of upcoming project-related meetings. Iowa City contact information was provided to residents to encourage them to contact City staff with any questions or comments throughout the project's duration. HDR provided a location on the project website where the public could submit comments throughout the project's duration.

5.2 Public Meeting No. 1

The first public meeting was conducted on August 25, 2011, at the Parkview Church off of Foster Road. The location of Parkview Church is shown in **Figure 1**. Approximately 73 people attended the meeting. The purpose of this meeting was to provide the public with an overview of the study, approach, objectives, and project schedule. The public was encouraged to participate in a facilitated public forum format and provide feedback by way of a survey that was designed to help gather community input on the criteria used to screen project alternatives. As a result of this meeting, approximately 51 public comments were collected, which were received at the meeting, by email, from the project website, by letter, and by petition. These comments are provided in **Appendix E**. A copy of the meeting materials and the recorded transcript from the public meeting are provided in **Appendix F**.

5.3 Public Meeting No. 2

The second public meeting was conducted on May 31, 2012, at the Parkview Church off of Foster Road. Approximately 49 people attended the open house. The purpose of the open house was to introduce the Study's screened alternatives and provide the public with a description of each alternative, the impacts, and the flood risk reduction provided. The public was encouraged to engage in discussion with City and HDR staff in attendance regarding each of the alternatives and provide feedback either through the staff members or the available comment forms. Four written comments were collected at this meeting, three comments were received from the project website, and three comments were received by email. These comments are provided in **Appendix G**. A copy of the meeting materials for the open house is provided in **Appendix H**.

5.4 Public Meeting No. 3

The third public meeting was conducted on June 6, 2012, at the Parkview Church off of Foster Road. Approximately 68 people attended the public meeting. The purpose of this meeting was to present the resulting alternatives, provide a summary of the analyses conducted, and provide the preliminary opinions of probable construction cost (POPC). The public was encouraged to participate in a facilitated public forum format and provide feedback by way of available

comment forms. Eight written comments were collected at this meeting, one comment was received by email, and no comments were received from the project website. These comments are provided in **Appendix G**. A copy of the meeting materials for the open house is provided in **Appendix H**.

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6.0 PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

6.1 Preliminary Capital Costs

A POPCC was estimated for each screened alternative. The POPCC is based on the configuration of the alternative (as shown in the figures provided in **Appendix H**), impact analyses described in Section 4 of this report, and the assumptions provided below.

1. The unit costs were estimated based on recent construction cost bid tabulations from Iowa City, coordination with vendors, and coordination with Iowa City.
2. A basemap of the improvements for each alternative was created and used to estimate project quantities and impacts. The basemap utilized 2006 Light Detection and Ranging (LiDAR) data provided by Iowa City.
3. The extent of the levee footprints, together with the parcel boundaries obtained from Iowa City, were utilized to estimate temporary and permanent easement requirements. Typical easement costs provided by Iowa City were used in the POPCCs.
4. The location of existing utilities was estimated from information provided by Iowa City and through cursory field reconnaissance. No potholing or survey was conducted to confirm the horizontal or vertical locations. These locations, together with the proposed alternative basemaps, were utilized to estimate utility impacts in the form of depth of cover, anticipated construction-related impact on utility lines, and permanent feature impacts.
5. Proposed improvements were developed in accordance with Iowa City design standards and general engineering industry standards.
6. These costs are based on a preliminary level of assessment. If design moves forward, additional details may affect final design cost. The 25% contingencies applied to each POPCC accounts for the level of uncertainty at this level of design.
7. A standard 8% of the improvement costs were utilized to estimate mobilization and engineering design fee, separately.

The POPCCs for each alternative are provided in **Appendix I**. Detailed and summary POPCCs are provided for each alternative. The summary POPCCs were determined by rounding each category of costs to the nearest hundred thousand. The POPCCs show that Alternative 2B has the lowest POPCC and Alternative 8 has the highest POPCC, at a range of \$3 million to \$14.3 million.

6.2 Operation and Maintenance

Operation and maintenance (O&M) costs were approximated on an annual basis. Iowa City would be responsible for annual O&M costs for the elements associated with the constructed mitigation improvements. O&M costs associated with the screened alternatives would include levee, relief well, and pump station maintenance. Tasks associated with this maintenance include the following:

1. Manage vegetation
2. Rodent control and rodent hole management
3. Levee slope/erosion control
4. Operate the pump station pump each year and conduct preventative maintenance on pump seals, oil, and gaskets
5. Operate the drainage penetration gates
6. Test each relief well every five years

Iowa City's approximated annual O&M costs would be \$30,000 per year. This approximated O&M cost has the following limitations:

1. Levees contained within roadway embankments would be maintained as part of Iowa City's roadway maintenance and is not included in the approximation presented.
2. Cost does not reflect equipment replacement cost.
3. Cost does not reflect labor cost associated with personnel required to perform O&M activities.

The \$30,000 annual maintenance costs estimates the following:

1. \$16,000/ year for relief well maintenance
2. \$4,000/ year for levee maintenance
3. \$10,000/ year for pump station maintenance

7.0 SUMMARY

The feasibility study conducted for the Taft Speedway Flood Mitigation Study revealed a set of eight screened alternatives that were evaluated for meeting the purpose of the project. The evaluation of these eight final alternatives included an initial environmental analysis, an evaluation of utility and infrastructure impacts, a geotechnical profile analysis, and public involvement. As a result of these evaluations, the following conclusions have been identified:

1. Each screened alternative is technically feasible.
2. The environmental analysis concluded that there is a potential for impacts on T&E species and wetlands, although it is anticipated that impacts could be minimized during design.
3. There are multiple utility impacts with each proposed alternative, including overhead electric, water mains, sanitary sewer, and storm sewer.
4. There are multiple infrastructure impacts with each proposed alternative, including neighborhood or property access points, sidewalk and trail, and roadway.
5. Alternative 2B would provide access to the Peninsula Area during 0.2% annual chance storm events.
6. Alternatives 7, 8 and 9A through 9D would provide flood mitigation for approximately 24 structures, approximately \$498,250 in assessed land value, approximately 92 condominium units currently assessed at approximately \$10,491,970, approximately \$4,544,320 in total structure value for Parkview Church, and approximately 33.6 acres of land. The City collects approximately \$170,000 annually in property tax revenue (2011) from the Idyllwild condominiums. Johnson County Assessor data shows that the 2008 flood event devalued the condominium property values by approximately 25 to 40 percent.
7. The hydraulic modeling conducted by HR Green shows that the proposed alternatives do not negatively impact the hydraulic profile of the Iowa River.
8. There are multiple aesthetic impacts with each proposed alternative, including obstructed river views and impacted views of residents outside of Idyllwild.
9. The geotechnical analysis was conducted as a result of comments received during and after the first public meeting concerning the geotechnical impacts of the foundation soils on the project. The analysis indicated the construction of levees/floodwalls is technically feasible in the Project Area.
10. The POPCCs show that cost of the proposed alternatives ranges from \$3 million to \$14.3 million. **Table 4** below provides a summary of the alternatives with their associated POPCCs. **Table 4** also contains alternative POPCCs with potential cost savings measures, including the reduction of the provided freeboard by a foot and the revision of the levee alignment from it's tie-back within the Dubuque Street ROW to the east side of the Parkview Church. **Appendix I** contains more cost information.

Table 5: Summary of POPCCs by Screened Alternative

Screened Alternative	POPCC	One Foot Freeboard Reduction POPCC	POPCC for Levee Alignment Behind Parkview Church
Alternative 2B	\$3,000,000	---	---
Alternative 7	\$8,100,000	\$8,010,000	\$7,960,000
Alternative 8	\$14,300,000	\$13,930,000	\$13,250,000
Alternative 9A	\$13,100,000	\$12,840,000	\$12,890,000
Alternative 9B	\$13,300,000	\$13,100,000	\$13,090,000
Alternative 9C	\$11,400,000	\$11,310,000	\$11,330,000
Alternative 9D	\$11,700,000	\$11,610,000	\$11,630,000

8.0 RECOMMENDATIONS

As a result of the analysis of the screened alternatives, several recommendations were identified as optimizations, beyond the scope of this specific phase of the project, to be made during the design and construction phase. These optimizations are identified below in order to minimize the construction cost of the alternatives, manage some of the residual risk identified in Section 4.6, and address public concerns. These recommendations are identified below.

1. Avoid to the extent practicable wetland, threatened and endangered species, and utility impacts.
2. Perform a risk and uncertainty analysis for reducing levee/flood wall freeboard in order to save on project capital cost.
3. Perform a detailed design analysis on flood wall type for structural, financial, and aesthetic purposes.
4. Consider shortening the total length of the levee by moving the east levee tie-back to the east side of Parkview Church rather than the Dubuque Street ROW.
5. Consider rerouting off-site drainage from the north of Foster Road to a discharge point outside of the levee/floodwall risk reduction footprint. For example, the off-site drainage outfall could be diverted to the west side of No Name Road rather than routed through the Idyllwild neighborhood. This would greatly reduce the interior drainage volume and required storm water pump size. HDR recommends that a backflow prevention device be utilized on any diverted outfall in order to reduce risk of backwater flooding within the levee risk reduction perimeter.
6. Review the interior drainage plan and offsite drainage patterns. Consider revisions to a combined interior drainage system, location of the storm water pump station, diversion of off-site drainage to a discharge point exterior to the levee alignment, upsizing interior drainage components, or revising outfall locations.
7. Consider alternate seepage control measures during design. For example, the option of constructing sheet pile into bedrock for seepage control and floodwall footings may result in lower total costs (initial construction costs as well as O&M costs).
8. Consider the alternatives in **Table 4** and the potential cost savings available from alternative alignment options. Alternatives are ranked as follows:
 - a. Alternative 2B has the lowest capital cost and maintains access to peninsula area, but provides no flood mitigation for Idyllwild residents or Parkview Church.
 - b. Alternatives 7, 9C, and 9D all provide flood mitigation for the 1% annual chance storm event. Alternative 7 has the lowest capital costs in addition to the continuous levee section providing the flexibility for temporary measures that could be used to provide mitigation for more extreme flooding events.
 - c. Alternative 8 has the highest capital costs for alternatives providing mitigation for the 0.2% annual chance storm event level, but has the least impact on existing infrastructure.
 - d. Alternative 9A has the lowest capital cost for projects providing flood mitigation at a 0.2% annual chance storm event level, but has greater impact on existing infrastructure.
 - e. Alternatives 9B and 9D illustrate that potential cost savings due to shorter levee/wall heights are offset by the costs required to raise Taft Speedway profile.
9. Consider alternative funding sources. Funding may be available through the Senate File 2217 (SF 2217) for flood mitigation projects, as signed by the Governor of Iowa on April 19, 2012. SF 2217 allows for the use of a certain percentage of state sales tax revenue to be used on flood mitigation projects. Revenue generated by this flood mitigation fund

may be awarded on terms of a loan, grant, or forgivable loan. Applications must be submitted in order to qualify for funding through this program.

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9.0 REFERENCES

Iowa City. September 28, 2011. *Iowa City Sanitary Sewer*.

Iowa City. No date. *Storm Sewer Plat*.

Iowa City. September 29, 2011. *Water Utilities Plat*.

Stanley Consultants Inc. January 2009. *Iowa City River Corridor Flood Protection Options for Parkview Terrace and Idyllwild Neighborhoods*.

Terracon. July 30, 1998. *Geotechnical Engineering Report – Proposed Foster Road Improvements*.

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**APPENDIX A: TAFT SPEEDWAY FLOOD MITIGATION STUDY
HYDRAULIC MODELING REPORT**

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THIS REPORT IS TO BE PROVIDED BY HR GREEN

**APPENDIX B: ENVIRONMENTAL REVIEW MEMORANDUM FOR
TAFT SPEEDWAY FLOOD MITIGATION STUDY**

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To: City of Iowa City	
From: HDR Engineering, Inc.	Project: Taft Speedway
Date: January 9, 2012	HDR Job No: 168249

RE: Environmental Review Memorandum for Taft Speedway Flood Mitigation Study**Introduction**

The City of Iowa City, Iowa (the City) is proposing to construct flood mitigation measures in the Taft Speedway area in Iowa City, Iowa (the Project) to protect this area from future flooding by the Iowa River. The City is preparing a feasibility study that considers several alternatives to provide varying degrees of protection from flooding. Iowa Department of Economic Development (DED) has awarded the City of Iowa City Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development (HUD) to conduct the Taft Speedway Flood Mitigation Study. The purpose of this effort is to conduct an objective feasibility study of flood mitigation alternatives in the Taft Speedway area – generally defined as the left overbank of the Iowa River from the Elks golf course east to Dubuque Street. In January 2009, the City developed a report evaluating potential flood protection alternatives for the Idyllwild neighborhood area at the 100-year and 500-year flood levels per the Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) (City of Iowa City, January 2009). Using this report as a starting point, the Taft Speedway Flood Mitigation Study will evaluate the feasibility of various flood mitigation techniques and the overall impact each technique would have on the residents in the vicinity of Taft Speedway. The feasibility study includes: soliciting, reviewing, and discussing the environmental impacts of alternatives with the public; environmental studies; evaluating alternatives; and issuing a final report.

Projects completed with HUD funds require a review of potential environmental impacts in accordance with the National Environmental Policy Act (NEPA) as implemented by HUD. HUD regulations to comply with NEPA are listed at 24 Code of Federal Regulations (CFR) 58.5. This memorandum documents a desktop review of environmental resources following the guidelines established in 24 CFR 58, providing an initial indication of potential environmental affects of the proposed alternatives (discussed below in Project Alternatives). The environmental review identifies resources where further coordination with Federal and state agencies would be required if the Project continues beyond the feasibility study and identifies the likely environmental documentation required for the Project if it is funded by HUD.

The Project Area, defined as the area within the limits of construction of the proposed flood mitigation infrastructure, is bounded by Foster Road on the north, Taft Speedway on the south, No Name Road (also called Calabria Street) on the west, and Dubuque Street on the east. The Environmental Study Area, defined as the area potentially affected by construction of the Project (including the area affected by noise, temporary road closures or detours, changes in the water surface elevation of the 100- and 500-year flood, and potential effects to threatened and endangered species) includes the area to the north and east of Iowa River, south of I-80, and west of Dubuque Street. Figure 1 shows the Project Area and Environmental Study Area. Figure 2 shows an expanded view of the Project Area along with desk top-determined environmental constraints.

Project Purpose

The purpose of the Taft Speedway project is to provide flood protection for the Taft Speedway area and Foster Road that would cause minimal to no impact to the surrounding area. In June 2008, the City of Iowa City experienced the “flood of record” along the Iowa River, which was near the 500-year flood per the FEMA FIS (City of Iowa City, January 2009). The Taft Speedway area was impacted by this flood, suffering significant damage to homes and condominiums, and causing residents to be evacuated from their homes.

Project Alternatives

Ten alternatives, including a no build alternative, were identified in the City's January 2009 report. These alternatives were screened by HDR Engineering Inc. (HDR) for technical and political feasibility to determine the alternatives to be carried forward for further analysis. Five build alternatives were screened out as not feasible or as not meeting Project objectives, leaving five alternatives, including the no build and four build alternatives, to be carried forward for further analysis:

- **No Build Alternative** – no permanent infrastructure improvements would be built. Temporary measures for access and property protection (such as sandbagging, temporary berms or water-filled fabric dams, or temporary pumping systems with temporary piping) would be employed.
- **Raise Foster Road** – the profile of Foster Road would be raised to an elevation above the 500-year flood water surface elevation (approximately 660 feet above mean sea level) to maintain access to the Peninsula area (an area north and east of the Iowa River in the vicinity of the Project area), including the Idyllwild area. The existing elevation of Foster Road in the Project Area varies from approximately 652 feet to 660 feet above mean sea level.
- **Levee** – a levee and necessary appurtenances would be constructed. The alignment would likely follow the current alignment of Taft Speedway and No Name Road and tie into Foster Road on the west and Dubuque Street on the east. To provide protection at the 500-year flood elevation, the levee would be constructed at approximately 660 feet above mean sea level.
- **Floodwall** – a temporary or permanent floodwall and necessary appurtenances would be constructed to provide protection for the Idyllwild area. The alignment would likely tie into Foster Road at No Name Road on the west, Taft Speedway on the south, and Dubuque Street on the east. To provide protection at the 500-year flood elevation, the floodwall would be constructed at approximately 660 feet above mean sea level.
- **Levee/Floodwall Combination** – This alternative would combine the Levee and Floodwall Alternatives; constructing a levee for much of the route discussed under these alternatives. A floodwall would be constructed where the right-of-way (ROW) is constrained, and a levee would be constructed elsewhere along the alignment.

Review of Environmental Resources

The following sections provide a summary of the resources listed for review in 24 CFR 58.5 for CDBG projects.

A. General Land Use

Existing Environment

Existing land uses in the Project Area include residential (the Idyllwild condominiums to the north of Taft Speedway) and the Parkview Church. Within the Study Area, large wooded acreages are located to the north of the Project Area (north of Foster Road); a mobile home park is located to the north of these acreages near Interstate 80. Elks Golf Course and several residential areas are located in the Peninsula Area to the west of the Project Area. Several single family homes are located south of the Project Area along Taft Speedway, north of the Iowa River. Terrell Mill Park is located south of the Project Area to the east of the single family homes. City Park and a residential area (Parkview Terrace) are located south of the Iowa River.

Potential Impacts

The amount of land that would need to be acquired has not yet been determined for any of the alternatives. Land use impacts outside of the Project Area are not anticipated. Public opinion regarding the use of land for the proposed flood protection measures is divided.

B. Important Farmland, Prime Rangeland, and Prime Forest Land

Existing Environment

All of the land in and near the Project Area is committed to urban development and is not subject to the Farmland Protection Policy Act.

Potential Impacts

Farmland would not be impacted by the proposed flood protection measures.

C. Wild and Scenic Rivers, Formerly Classified Lands, Natural Landmarks and Wilderness Areas.

Existing Environment

There are no wild and scenic rivers within one mile of the Project Area. There are no formally classified lands (national parks and monuments, national natural landmarks, national battlefield park sites, national historic sites and parks, wilderness areas, wildlife refuges, national seashores, lake shores, and trails; state parks, Bureau of Land Management-administered lands, national forest and grasslands, and Native American-owned lands and leases administered by the Bureau of Indian Affairs) within or near the Project Area.

Terrell Mill Park, owned by the City, is adjacent to the eastern half of the southern Project Area boundary (Taft Speedway). City Park, also owned by Iowa City, is located across the Iowa River from the Project. A segment of the Iowa River Corridor Trail is located along the south side of Foster Road; the Trail continues to the west of the Project Area. Another segment of the Trail is located south of the Iowa River.

Potential Impacts

The proposed flood protection measures would not impact any wild and scenic rivers or other formally classified land. The No Build Alternative and Raise Foster Road Alternative would not impact Terrell Mill Park or City Park. The Raise Foster Road Alternative would temporarily affect the Iowa River Corridor Trail during construction. The Trail would be elevated and would be less vulnerable to future flooding events. The Levee, Floodwall, and Levee/Floodwall Combination Alternatives would potentially affect Terrell Mill Park during construction, but permanent impacts are not anticipated. Coordination with the City of Iowa City Parks and Recreation Department would be required if park land or trails are affected.

D. Floodplains

Existing Environment

The majority of the Project Area is within the 100-year floodplain. The remainder of the Project Area, with the exception of Foster Road near Laura Drive, and the intersection of Foster Road and No Name Road, is within the 500-year floodplain (FEMA, February 16, 2007). Within the remainder of the Study Area, the 100-year floodplain is mostly confined to within approximately 500 feet of the Iowa River. The 500-year floodplain extends up to approximately 500 feet further landward from the river.

Potential Impacts

The proposed flood protection measures vary in the degree of protection that they would provide. The No Build Alternative would protect Foster Road, Idyllwild, Taft residents, and Parkview Church from a 100-year flood with the use of temporary measures if there is adequate response time. The No Build Alternative would not provide any protection for an event similar to the 2008 flood event, or a 500-year flood.

The Raise Foster Road Alternative would protect access on Foster Road for a 100-year flood, an event similar to the 2008 flood event, and a 500-year flood. Temporary measures employed under this alternative would protect Idyllwild and Parkview Church during a 100-year flood, but would not provide protection for residents along Taft Speedway. Under this alternative, there would not be any protection for Idyllwild,

residents along Taft Speedway, and Parkview Church from an event similar to the 2008 flood event, or a 500-year flood.

The Levee Alternative would provide protection for Foster Road, Idyllwild, and Parkview Church from a 100-year flood, an event similar to the 2008 flood event, and a 500-year flood. This alternative would not protect Taft residents from any of these scenarios.

Both the Floodwall and the Levee/Floodwall Combination Alternatives would provide the same protection as the Levee Alternative.

The levee, floodwall, or a combination of these measures would potentially raise the water surface elevation of the Iowa River 100-year floodplain by approximately 0.03 feet, and raise the water surface elevation of the Iowa River 500-year floodplain by approximately 0.05 feet. This increase in the water surface elevation would not have an appreciable affect on the extent of land outside of the protected area potentially affected by a flood event.

Interior drainage (drainage to the north of the flood protection structure), underseepage of water from flooded areas to non-flooded areas, and space constraints to construct flood protection structures are issues that would be addressed in future design and environmental documents.

A floodplain development permit from the City would be required for construction of a levee, floodwall, or a combination levee and floodwall. Public notices of a proposed Project within a floodplain and potential impacts to the floodplain, as required by 24 CFR 55, would be published as part of the environmental documentation process.

E. Wetlands

Existing Environment

Based on National Wetland Inventory (NWI) maps produced by the U.S. Fish and Wildlife Service (USFWS), five areas of wetlands occur in and near the Project Area: an area of riverine wetlands along the Iowa River to the south of the Project Area, an area of palustrine emergent wetlands to the south of Taft Speedway west of Dubuque Street, an area of palustrine forested wetlands south of Taft Speedway (to the south of Parkview Church), and two areas of freshwater pond wetlands in Idyllwild (USFWS, November 7, 2011).

Potential Impacts

The No Build Alternative would not affect wetlands. Based on (NWI) maps, the area of palustrine emergent wetlands are within approximately 10 to 20 feet of the proposed levee location and within approximately 30 to 40 feet of the proposed floodwall location. The palustrine forested and freshwater pond wetlands are located within approximately 40 to 50 feet of proposed levee or floodwall locations. Locations of these wetlands based on NWI mapping are approximate. Wetland delineations would be required to determine the presence and extent of wetlands within and near the Project Area. Avoidance of wetlands by the levee, floodwall, and levee/floodwall alternatives would be preferable. If avoidance of wetlands is not practicable, a Section 404 wetland permit from the U.S. Army Corps of Engineers would likely be required. It is unknown at this time if a nationwide permit or an individual permit would be needed. As part of the permit process, Iowa DNR would need to consider water quality impacts and certify construction of the Project. If wetlands would be impacted by the Project, public notices, as required by 24 CFR 55, would be published.

F. Cultural Resources, Historical and Archaeological

Existing Environment

A review of information (topographic maps from 1930 and 1950, a map of potential for archaeological sites, and a landform sediment assemblage from existing background data) provided by the Iowa DED State Historic Preservation Office liaison reveals that there are no known historic or archaeological sites within or near the Project Area. The potential for encountering archaeological sites during excavation or earthwork is

low. Archaeological surveys may be required, but further coordination with the Iowa Department of Economic Development State Historic Preservation Office liaison would be completed during the environmental documentation process to determine the extent of surveys and other data, such as soil testing, needed.

Potential Impacts

The No Build Alternative would not affect historic or archaeological resources. All four of the build alternatives would have the potential to affect potential archaeological resources. Further coordination with the Iowa Department of Economic Development State Historic Preservation Office liaison would be completed during the environmental documentation process. Limited soil tests could also be completed to help determine the likelihood of encountering unknown archaeological resources.

G. Biological Resources Critical Habitat or Endangered/Threatened Species Act

Existing Environment

USFWS lists one endangered species (the Indiana bat), three threatened species (western prairie fringed orchid, eastern prairie fringed orchid, and prairie bush clover), and one candidate species (Eastern Massasauga rattlesnake) as occurring in Johnson County (USFWS, October 25, 2011). Habitat conditions adjacent to the Project Area are generally favorable for Indiana bat, western prairie fringed orchid, eastern prairie fringed orchid, and Eastern Massasauga rattlesnake. Iowa Department of Natural Resources (DNR) lists 70 state-protected species as potentially occurring in Johnson County (including the Federally-protected species) (Iowa DNR, not dated).

Potential Impacts

The No Build Alternative would not affect Federal or state-protected species in the Project Area. All four of the build alternatives would have the potential to affect protected species. Coordination with USFWS and Iowa DNR would be required during the environmental documentation process.

H. Water Supply & Quality & Groundwater

Existing Environment

The Iowa River is located approximately 250 to 1,000 feet south of the Project Area. An unnamed intermittent stream flows south and southwest within the Project Area near its eastern edge. The Iowa City Water Purification Plant is located approximately 2 river miles upstream of the Project Area. Groundwater is approximately 10 to 100 feet below the ground surface in the Project Area with shallower groundwater depths are near the Iowa River (Iowa DNR, not dated).

Potential Impacts

The No Build Alternative would not increase water supply use, affect the Iowa City's water supply, or affect groundwater in the Project Area. The build alternatives would not increase water supply use or the Iowa City's water supply, and would not likely encounter groundwater in the Project Area (any excavation required would not likely reach the depth of groundwater) and post-construction mounding of groundwater near the levee or floodwall would not be anticipated to cause any adverse affects.

I. Coastal Zone Management Area & Coastal Barrier Resources System

Coastal zone management areas and coastal barrier resources are not found within or near the Project Area.

J. Storm Water

Existing Environment

Existing storm water drainage is accomplished by gravity flow along Foster Road and towards the Iowa River via inlets, storm pipes, and drainage ditches with culverts.

Potential Impacts

The No Build Alternative would not affect storm water drainage. Raising Foster Road would require adjusting the existing storm water system along Foster Road to the increased elevation of the road. Construction of the levee, floodwall, or levee/floodwall alternatives would require adding a pumping system to move water from the interior side of the proposed flood protection to the Iowa River.

Construction of any of the build alternatives would require a National Pollutant Discharge Elimination System permit and a storm water pollution prevention plan.

K. Waste Water

Existing Environment

The existing sanitary sewer system in the Project Area consists of a trunk line along Taft Speedway (south of Taft Speedway east of Idyllwild and north of Taft Speedway in Idyllwild), and lateral lines in Idyllwild and along Foster Road from Dubuque Street to Laura Drive.

Potential Impacts

It is not anticipated that any of the alternatives would affect the sanitary sewer system.

L. Surface Water

Existing Environment

An unnamed intermittent stream flows south and southwest within the Project Area near its eastern edge. Two freshwater ponds are located within the Idyllwild area. The Iowa River is located approximately 250 to 1,000 feet south of the Project Area. There are no impaired streams within or near the Project Area.

Potential Impacts

The No Build Alternative would not affect surface water in the Project Area. It is not anticipated that any of the build alternatives would affect surface water, unless the selected build alternative would follow a path substantially east of No Name Road or north of Taft Speedway. In this case, one of the freshwater ponds within the Idyllwild could be affected. Construction of a levee or floodwall would not affect the intermittent stream near Dubuque Road (the stream would be avoided).

M. Socio-Economic Information/ Environmental Justice Issues

Existing Environment

The Project Area consists of a mix of residential development including multi-family housing units and Parkview Church. Several single family homes are located to the south of the Project Area along Taft Speedway, and north of the Project Area along Foster Road. West and north of the Project Area, residential development is low density, with the exception of a mobile home park to the north near Interstate 80 and a residential area approximately 0.8 miles west of the Project Area. Several single family homes are located south of the Project Area along Taft Speedway. Access to and from the Study Area north of the Iowa River is limited to Taft Speedway and Foster Road. Generally, the Study Area population is more ethnically diverse than Iowa City. The percentage of the population identifying themselves as Black, American Indian or Alaska Native, Asian, or Native Hawaiian and Other Pacific Islander is lower than the percentage within Iowa City. The percentage of the Study Area population identifying themselves as “Some Other Race” and “Two

or more Races” is higher than Iowa City. The percentage of the Study Area population identifying themselves as Hispanic or Latino is substantially¹, higher than Iowa City, but the population that is linguistically isolated (does not speak English well) is lower than the percentage within Iowa City. The Hispanic or Latino population within the Study Area resides mainly to the north of the Project Area. The percentage of the population with income below the poverty level is slightly, but not substantially higher than Iowa City (US Census, August 25, 2011; US Census, November 11, 2011a; US Census, November 11, 2011b).

Potential Impacts

The No Build Alternative would not affect land use or housing in the Project Area. Substantial changes to land use from the build alternatives are not anticipated. The impact of the build alternatives would depend upon the location selected for constructing the proposed flood protection measures. If the proposed levee, floodwall, or levee/floodwall combination are constructed along No Name Road, Taft Speedway and west of Dubuque Road, it is anticipated that residences would not need to be acquired. If any of the build alternatives would follow a path substantially east of No Name Road or north of Taft Speedway, residences would need to be acquired. Temporary road or lane closures would affect all residents within the Study Area equally. None of the alternatives are anticipated to affect employment in the Project Area, other than a slight temporary increase in construction employment with construction of any of the build alternatives. Access to the area by emergency personnel would not change with the No Build Alternative, but is anticipated to improve with any of the build alternatives. The residents in the area protected by a levee or floodwall would benefit by a reduced risk of flooding. All residents in the Project Area, to the north of Foster Road, and in the Peninsula area to the west of the Project Area would benefit by a reduced risk of flooding of Foster Road, maintaining access for residents and emergency services.

A substantial racial and minority population was identified; if the proposed Project would have, or be perceived to have, disproportionately high adverse human health or environmental effects to the community, further analysis to document these effects would be needed. If disproportionately high adverse human health or environmental effects are identified, mitigation measures to reduce the impacts would be required.

N. Air Quality

Existing Environment

Johnson County is currently in attainment for all criteria pollutants (EPA, August 30, 2011).

Potential Impacts

The No Build Alternative would not affect air quality in the Project Area. Construction of any of the build alternatives would generate minor amounts of emissions from construction equipment and fugitive dust from soil disturbance. Impacts to air quality would be slight; no air quality standards would be exceeded.

O. Transportation

Existing Environment

Dubuque Street, a four-lane divided road, is located at the east end of the Project Area. Foster Road, No Name Road, and Taft Speedway, bounding the north, west, and south edges of the Project Area, respectively, are two lane roads. Foster Road extends to the west of the Project Area and provides access to the Peninsula neighborhood. The Iowa River Corridor Trail runs along Dubuque Street and Foster Road within the Project Area.

Iowa City Municipal Airport is located approximately 2.4 miles south of the Project Area.

¹ Census block groups and blocks were determined to contain “substantial” EJ populations if any of the EJ populations exhibited concentrations that were at least 40 percent higher than the City’s percentage of the same EJ population, based on an assumption that 40 percent above the mean (approximately one standard deviation) is substantial.

Potential Impacts

The No Build Alternative would not affect the road network, the Iowa River Corridor Trail, or the Iowa City Municipal Airport. All of the build alternatives would temporarily affect roads within the Project Area and the Iowa River Corridor Trail. As Project design progresses, the environmental document would assess the details of potential detours during construction. The post-construction road and trail network would be identical to the pre-construction network. The Project is not anticipated to affect airspace at the Iowa City Municipal Airport; however, in accordance with 14 CFR 77, the construction contractor would need to use the Notice Criteria Tool available at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp> to determine if construction equipment would potentially obstruct airspace at the Airport.

P. Noise

Existing Environment

The Project Area is a typical urban residential environment. Parkview Church is located in the eastern half of the Project Area.

Potential Impacts

The No Build Alternative would not affect noise levels experienced by residents or Parkview Church. No unacceptable noise levels would be generated by construction of the build alternatives. Noise generated by construction equipment and occasional operation of the emergency generator would be short term and intermittent. Post-construction noise levels would be identical to pre-construction levels.

Q. Hazardous Waste

Existing Environment

There are no documented hazardous materials or waste sites in the Project Area (EPA, November 23, 2011). The closest documented site is a leaking underground storage tank (LUST) in City Park approximately 1,500 feet to the south of the Project Area. The LUST was removed in 1991, site cleanup started in 1993, and the site was closed with no further action required in 2002 (Iowa DNR, not dated). A Brownfields site located approximately 1 mile west of the Project Area was closed with no further action required in 2007 because all contaminants were below statewide standards (Iowa DNR, May 15, 2007).

Potential Impacts

The No Build Alternative would not affect hazardous material or waste sites in the Project Area. The build alternatives would not affect any known hazardous materials or waste sites.

Summary

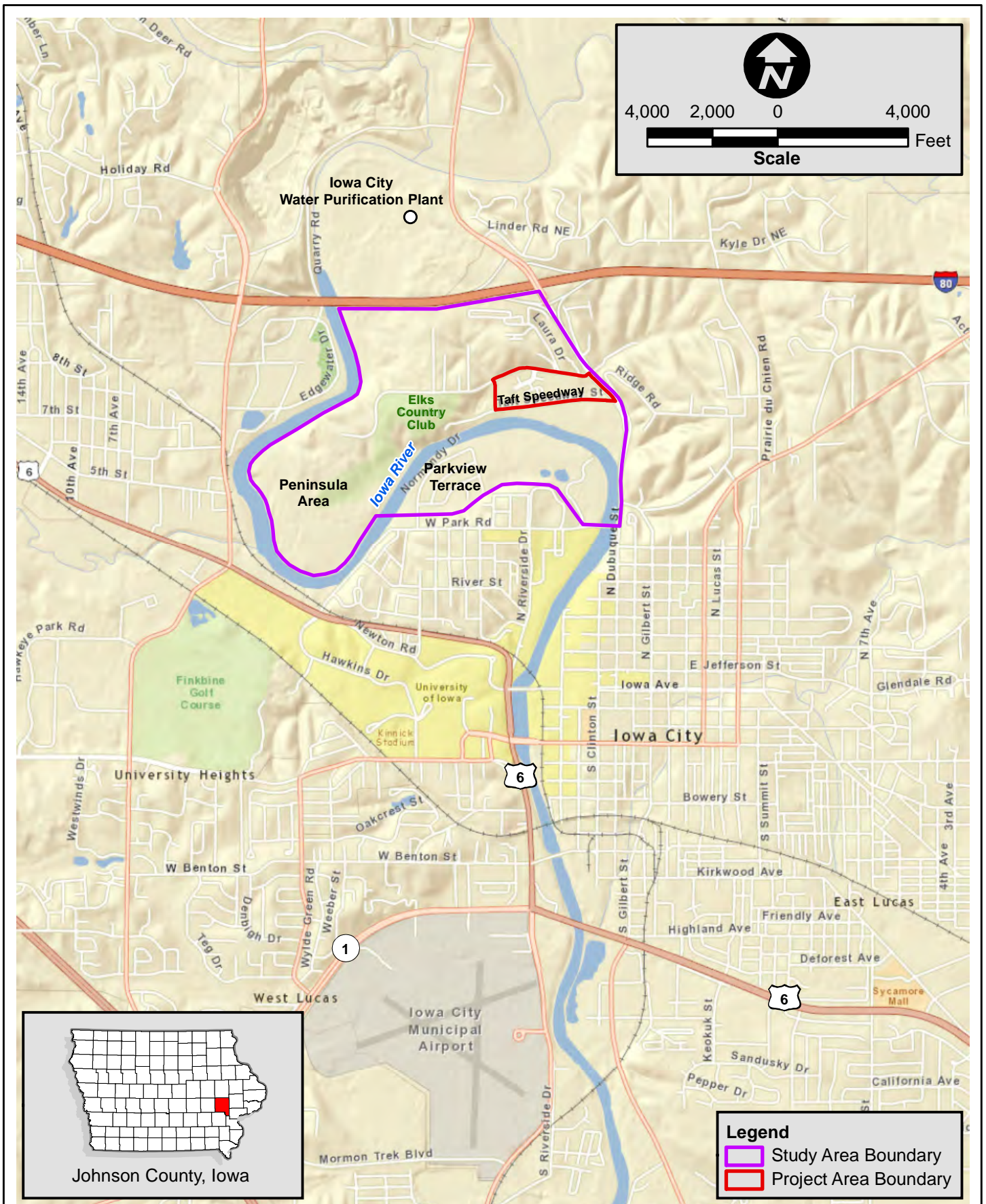
The Project has the potential to affect floodplains, wetlands, cultural (archaeological) resources, threatened and endangered species, storm water drainage, and transportation resources. The Project would not qualify as a categorical exclusion (excluded activities are listed in 24 CFR 58.34 and 58.35). Based on current knowledge, the Project should not require an environmental impact statement (EIS) in accordance with 24 CFR 58.37. Therefore, in accordance with 24 CFR 58.36, an environmental assessment would need to be completed before CDBG funds could be released for construction of the Project. If a significant impact to the human environment is identified during the environmental assessment process, an EIS would be required.

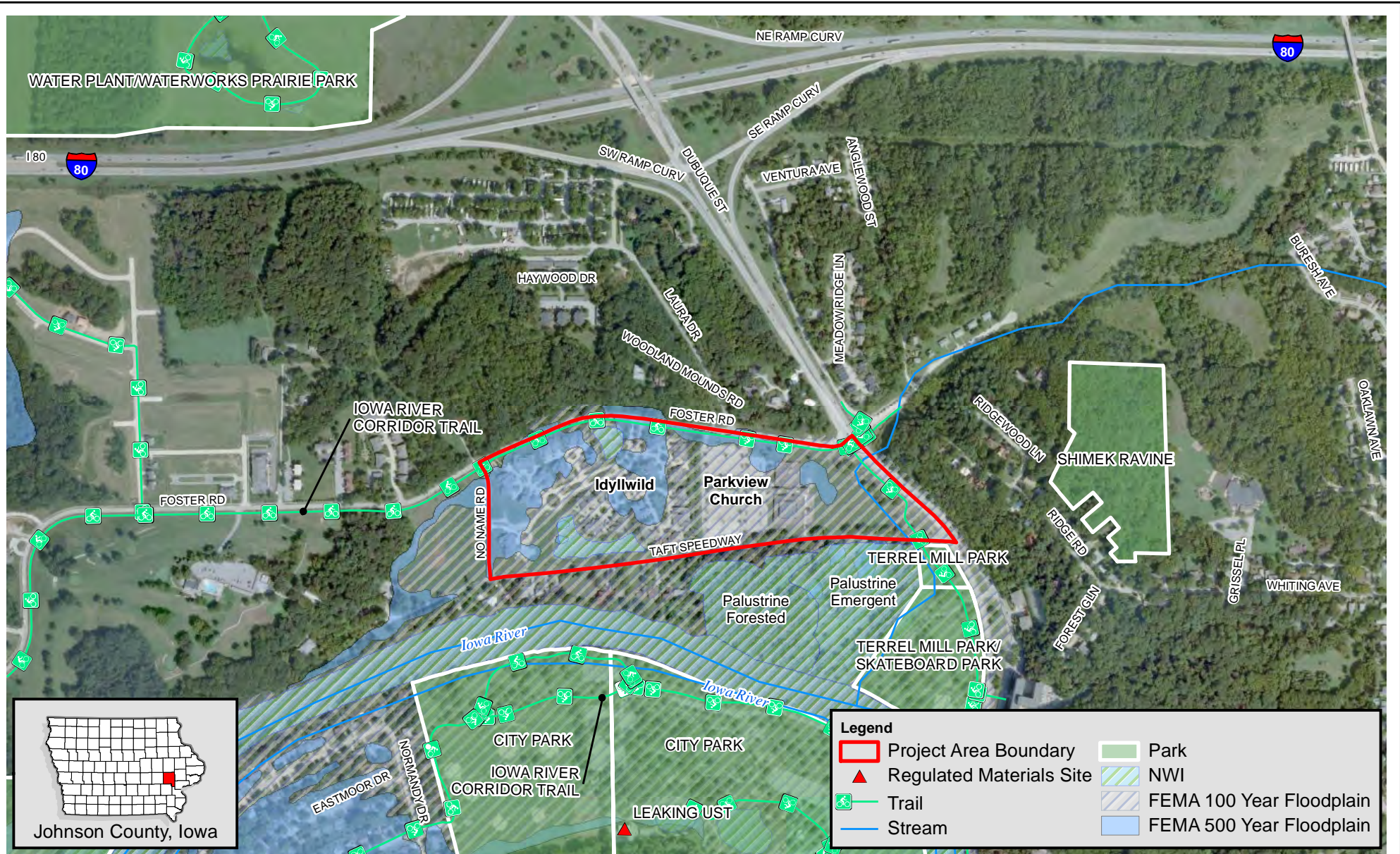
The environmental review process, as outlined in Iowa DED's CDBG Management Guide, Appendix 2, Environmental Review, would be followed. This includes determination of the level of environmental review, the appropriate environmental documentation based on this review, all public notices required, and the required forms for compliance with applicable regulations and release of funds from Iowa DED.

References:

- City of Iowa City. January 2009. Iowa City River Corridor Flood Protection Options for Parkview Terrace and Idyllwild Neighborhoods.
- EPA. November 23, 2011. Envirofacts Multisystem Search and Brownfields Sites Search.
<http://www.epa.gov/enviro/facts/qmr.html#envirofacts>. Accessed November 23, 2011.
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- Iowa DNR. Not dated. Facility Explorer. Environmental Facilities.
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- Iowa DNR. May 15, 2007. Letter regarding Wissink Property Brownfields Site.
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- U.S. Census Bureau. November 2011a. American Community Survey 2005 to 2009. Table: B16002 – Household Language by Linguistic Isolation.
http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=data_sets_2&_lang=en
- U.S. Census Bureau. November 2011b. American Community Survey 2005 to 2009. Table: C17002 – Ratio of Income to Poverty Level in the Past 12 Months - Universe: Population for whom Poverty Status is Determined.
http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=data_sets_2&_lang=en
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- USFWS. November 7, 2011. National Wetlands Inventory Mapper.
<http://www.fws.gov/wetlands/Data/Mapper.html>
- USFWS. October 25, 2011. Endangered Species, Iowa, County Distribution of Federally Threatened, Endangered, Proposed and Candidate Species for Johnson County.
http://www.fws.gov/midwest/endangered/lists/iowa_cty.html

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Environmental Constraints

Iowa City, Iowa
Taft Speedway Flood Mitigation Alternatives Study

DATE

November 2011

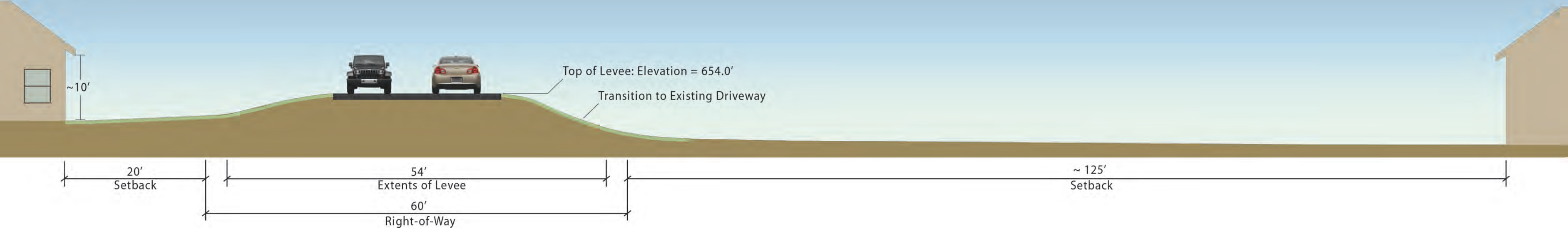
FIGURE

2

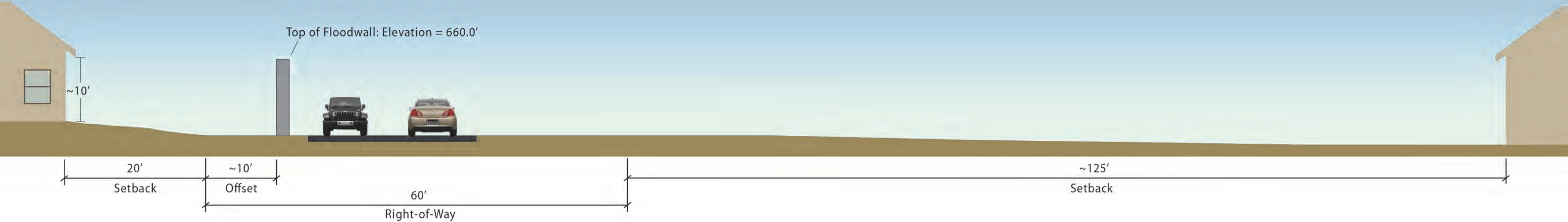
**APPENDIX C: TAFT SPEEDWAY FLOOD MITIGATION STUDY
PROJECT RENDERING AND FLOODWALL AESTHETIC TREATMENT EXAMPLES**

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Idyllwild Neighborhood



Idyllwild Neighborhood





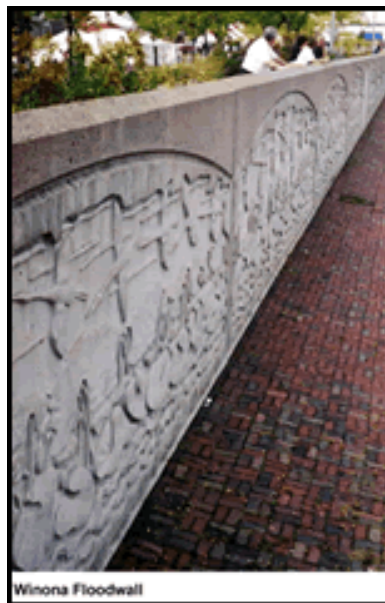
Example of Floodwall Aesthetic Treatment (Grand Fork, MN)



Example of Floodwall Aesthetic Treatment (Lincoln, NE)



Example of Floodwall Aesthetic Treatment (Moorhead, MN)



Example of Floodwall Aesthetic Treatment (Winona, OH)

**APPENDIX D: TAFT SPEEDWAY FLOOD MITIGATION STUDY
GEOTECHNICAL DATA REPORT**

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GEOTECHNICAL DATA REPORT

Taft Speedway Flood Study

Iowa City, Iowa

TAFT SPEEDWAY FLOOD STUDY

May 2012

Prepared for:
Iowa City, Iowa

Prepared by:
HDR Engineering, Inc.



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2.0 SUBSURFACE INVESTIGATION	1
2.1 Field Exploration	1
2.2 Laboratory Testing	1
3.0 SUBSURFACE CONDITIONS	2
3.1 Soils and Bedrock	2
3.2 Groundwater	2
4.0 LIMITATIONS	2

LIST OF FIGURES (Following Text)

- 1 Project and Boring Location Map

LIST OF ATTACHMENTS (Following Figures)

- A Boring Logs
B Laboratory Testing

GEOTECHNICAL DATA REPORT TAFT SPEEDWAY FLOOD STUDY IOWA CITY, IOWA

1.0 INTRODUCTION

This Geotechnical Data Report (GDR) presents the results of the subsurface investigation and laboratory material testing performed at the site of the proposed Taft Speedway Flood Study. This report was prepared by HDR Engineering, Inc. for Iowa City, Iowa. A project location map is included as Figure 1.

The intent of the project is to evaluate flood control alternatives to provide protection at the 100-year and 500-year flood elevations, which correspond to elevations 654 and 660 feet, respectively. To provide protection against the 500-year flood, the protection would have to be about 9 to 16 feet above existing grade across the site.

This investigation was performed to investigate the geologic conditions at the site and to evaluate their impact on the feasibility of potentially constructing flood risk reduction structures like earthen levees and floodwalls at the site.

2.0 SUBSURFACE INVESTIGATION

2.1 Field Exploration

The field work for the project consisted of drilling a total of 11 exploratory test borings and 3 cone penetrometer tests. Ten borings were completed along No Name Road and Taft Speedway to the depths shown on the boring logs. Each boring was advanced to auger refusal on bedrock.

The approximate locations of these borings are shown on Figure 1. Copies of the boring logs are included in Attachment A.

The borings were advanced with a Mobile Drill International B-57 drill rig equipped with 3.25-inch ID hollow stem augers. The field investigation was conducted by Geotechnical Services, Inc. (GSI) of Urbandale, Iowa under the direction of a registered professional civil engineer specializing in geotechnical engineering.

Soil samples from the auger borings were obtained using push and drive sampling at intervals shown on the boring logs. Recovered samples were sealed in glass jar containers, labeled, and protected for transportation to the laboratory for testing. Split-barrel samples, designated "S" samples, were obtained while performing Standard Penetration Tests (SPT) with a thick walled sampler, 1.5-inch inside diameter, driven in general accordance with ASTM D1586-84, "Penetration Test and Split-Barrel Sampling of Soils." The N-value, reported in blows per foot, represents the number of blows required to drive the sampler over the last 12 inches of the sample interval.

The field boring logs were prepared in general accordance with ASTM D2488-84, "Description of Soils (Visual-Manual Procedure)." Stratification lines represent the approximate boundary between soil types, and the transition may be gradual. Water level readings were made in the drill holes at times and under conditions stated on the boring logs.

2.2 Laboratory Testing

The field boring logs were reviewed to outline the depths, thicknesses, and lateral extent of the various soil strata. A testing program was established to evaluate the engineering properties of the recovered samples and to substantiate the soil classifications made in the field. All tests were conducted in general

accordance with current ASTM or state-of-the-practice test procedures. Laboratory test results are presented in Attachment B of this report.

The foundation soils were tested to determine moisture content, dry density, plasticity indexes, grain size, consolidation and shear strength (unconsolidated undrained and consolidated undrained triaxial tests) properties.

3.0 SUBSURFACE CONDITIONS

3.1 Soils and Bedrock

The subgrade was generally described as alluvium consisting of a silty and sandy lean clay surficial blanket ranging from 1.5 to over 20 feet in thickness. The underlying sand was generally described as loose to medium dense silty fine to medium sand with interbedded clay seams down to the layer's termination at bedrock. The total thickness of this silty sand layer was about 0 to 24 feet. The bedrock was generally described as Pennsylvanian limestone and was encountered at depths ranging from 21 to 42 feet.

It should be noted that the thinnest section of surficial clay blanket was located adjacent to the lake that parallels Taft Speedway (near Borings B-3, B-4 and B-5). Also, the pervious silty sand layer was not present at the easternmost boring (B-10) and clay extended from the surface to bedrock at about 21 feet below existing ground surface.

3.2 Groundwater

Groundwater was encountered at the depths and times noted on the boring logs (Attachment A). Groundwater was generally present at depths varying from about 9 to 15 feet below existing ground. This corresponds to El. 633 to 639 feet.

Fluctuations in the level of the groundwater may occur due to seasonal variations in precipitation and other factors not evident at the time of measurement.

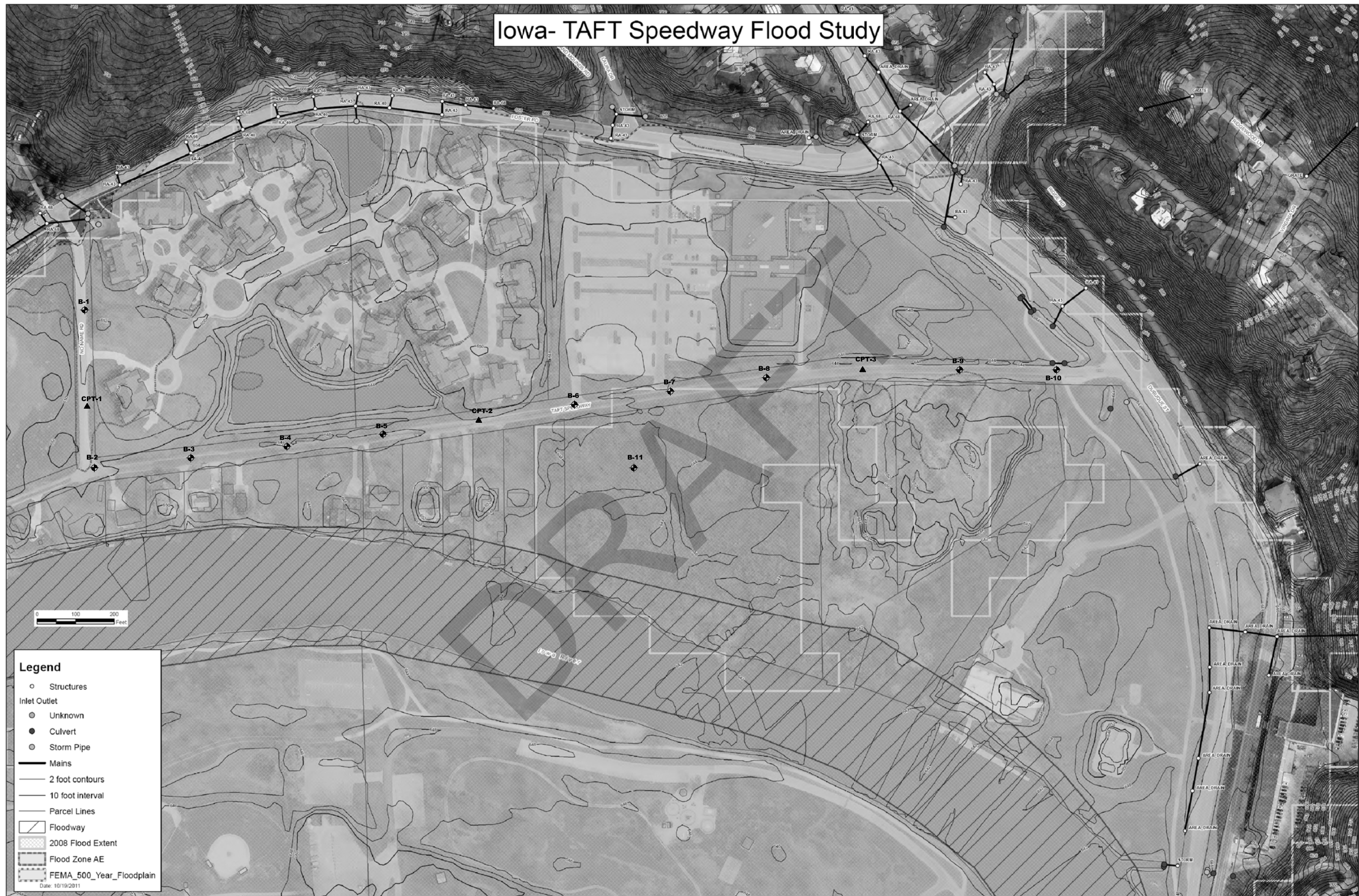
4.0 LIMITATIONS

This GDR presents geotechnical data from the preliminary field investigation, laboratory testing of specific samples at the locations indicated and a description of subsurface conditions using the methods and sources described in this report. It has been prepared in accordance with generally accepted engineering practice and in a manner consistent with the level of care and skill for this type of project within this geographical area. No warranty, expressed or implied, is made.

The data presented herein are based on field reconnaissance, research and available literature, and the results of field exploration and laboratory materials testing by others.

Geotechnical engineering and the geologic sciences are characterized by uncertainty. Professional judgments presented herein are based partly on our understanding of the proposed construction, partly on our general experience and the state-of-the-practice at the time of this evaluation.

Iowa- TAFT Speedway Flood Study



- LEGEND**
- ✦ BORING
 - ▲ CONE PENETROMETER



BORING LOCATION PLAN

TAFT SPEEDWAY FLOOD STUDY

IOWA CITY, IOWA

DRAFT

BORING LOG No. TB-1

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER
TB-1		Offset 5' West		Existing Surface	N/A	DAH	JLM
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Asphalt Street		Mobile B-57
					DRILLING METHOD		TOTAL DEPTH
15'	14' 6"	10'			3 1/4-inch Hollow Stem Augers		41' 7"




SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA				
DEP. FT.	SAMPLE NO. & TYPE	N° BLOWS (FT)	REC. (in)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS	% MC	DRY DENS. pcf	% <#200	LL (%)	PI (%)
				GEOLOGIC DESCRIPTION & OTHER REMARKS							
				Asphaltic Cement Concrete PAVEMENT		FILL					
	U1	PP=0.5	16"	Brown and gray mixed, Moist, Medium stiff, SANDY LEAN CLAY			26	92	77.7	32.4	15.3
6						CL					
	U2	PP=1.0	16"						95.3	31.2	13.1
12				ALLUVIUM							
	U3	PP=1.0	13"	Gray and brown mixed, Moist to very moist, Medium stiff, LEAN CLAY with sand			28	97	90.3	31.4	18.3
				ALLUVIUM							
18	U4	PP=75	11"	Dark gray, Very moist, Medium stiff, VERY SANDY LEAN CLAY		CL					
				ALLUVIUM							
				Brown and gray mixed, wet, Medium dense, SILTY FINE TO MEDIUM SAND							
24	S5	16	8"						31.1		
	S6	11	10"	Gray, moist, sandy lean clay seams below 27 feet							
30						SM					
	S7	9	10"						69.9		
36											
	S8	19	8"	Light gray limestone bedrock in sample S9							
42	S9	50/1"	1"	ALLUVIUM Bottom of Boring @ 41.58'							



GSI Geotechnical Services, Inc.
10807 Aurora Avenue, Urbandale, Iowa 50322
(515) 270-6542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/16/12

BORING LOG No. TB-2

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER				
TB-2		Offset 12' South & 15' East		Existing Surface	N/A	DAH	JLH				
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG				
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Asphalt Street		Mobile B-57				
					DRILLING METHOD		TOTAL DEPTH				
12'		12' 6"		11'	3 1/4-inch Hollow Stem Augers		36' 1"				
DEP. FT.	SAMPLE DATA			SOIL DESCRIPTION			LABORATORY DATA				
	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC (IN)	COLOR, MOISTURE, CONSISTENCY GEOLOGIC DESCRIPTION & OTHER REMARKS		USCS CLASS	% MC	DRY DENS. PCF	% <200	LL (%)	PI (%)
					Asphaltic Cement Concrete PAVEMENT	0.5'	FILL				
					Brown, Moist, VERY SANDY LEAN CLAY ALLUVIUM	2.0'	CL				
	U1	PP=0*	16"		Brown, Moist, Loose, SILTY FINE SAND *Sand in bottom of U1			16	105	14.2	
6	S2	4	12"								
					Gray very sandy lean clay seams below 7 feet		SM				
	S3	4	18"								
12					ALLUVIUM	12.0'					
	S4	7	16"		Brown, Wet, Loose to medium dense, SILTY FINE TO COARSE SAND						
					Brown and gray mixed below 17 feet		SM				
18	S5	13	15"								
					ALLUVIUM	22.0'					
24	S6	5	18"		Light brown, Wet, Loose, CLAYEY FINE SAND		SC		49.8	21.1	8.3
					ALLUVIUM	27.0'					
	S7	6	18"		Light brown, Very Moist, Medium stiff, SANDY LEAN CLAY interbedded with fine silty sand		CL		83.3		
30					ALLUVIUM	32.0'					
	S8	13	16"		Orangish-brown, Wet, Medium dense, SILTY FINE TO COARSE SAND		SM				
					Light gray limestone bedrock in sample S9						
36	S9	50/1"	1"		ALLUVIUM Bottom of Boring @ 36.08'	36.1'					
42											



GSI Geotechnical Services, Inc.
 10607 Aurora Avenue, Urbandale, Iowa 50322
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PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/16/12

BORING LOG No. TB-3

BORING NO.		LOCATION OF BORING	ELEVATION	DATUM	DRILLER	LOGGER
TB-3		Offset 5' South & 5' East	Existing Surface	N/A	DAH	JLH
WATER LEVEL OBSERVATIONS				TYPE OF SURFACE		DRILL RIG
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING		Asphalt Street		Mobile B-57
				DRILLING METHOD		TOTAL DEPTH
11' 6"		Backfilled		3 1/4-Inch Hollow Stem Augers		32' 1"

DEP FT	SAMPLE DATA			SOIL DESCRIPTION		LABORATORY DATA				
	SAMPLE NO. & TYPE	N ₁ BLOWS (FT)	REC. (in)	COLOR, MOISTURE, CONSISTENCY	USCS CLASS	% MC	DRY DENS (pcf)	% S ₂₀₀	LL (%)	PI (%)
				Asphaltic Cement Concrete PAVEMENT	FILL					
				Brown, Moist, SANDY LEAN CLAY	CL					
	U1	PP=1.5	14"	ALLUVIUM						
6	S2	2	18"	Brown, Moist, Loose, VERY SILTY FINE SAND				41.6	15.6	NP
				Very sandy lean clay seams below 7 feet	SM					
	S3	3	18"							
12				ALLUVIUM						
	U4	PP=0"		Brown and gray mixed, Wet, Medium dense, SILTY FINE TO COARSE SAND interbedded with layers of gray sandy lean clay				68.0	26.6	12.2
	S5	11	18"	*Sand in bottom of U4						
18	S6	13	16"		SM					
				ALLUVIUM						
24	S7	8	12"	Brown, Very moist, Loose, CLAYEY FINE SAND interbedded with light brown silty lean clay seams	SC-SM			34.6	19.7	4.0
				ALLUVIUM						
	S8	18	16"	Light brown, Wet, Medium dense, VERY SILTY FINE SAND	SM					
30				Light gray limestone bedrock in sample S8						
	S9	50/1"	1"	ALLUVIUM Bottom of Boring @ 32.08"						
36										
42										



GSI Geotechnical Services, Inc.
10807 Aurora Avenue, Urbandale, Iowa 50322
(515) 270-8542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/16/12

BORING LOG No. TB-4

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER					
TB-4		Offset 6' South		Existing Surface	N/A	DAH	JLH					
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG					
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Asphalt Street		Mobile B-57					
					DRILLING METHOD		TOTAL DEPTH					
9'		9' 6"		Backfilled		3 1/4-inch Hollow Stem Augers		32' 2"				
SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA					
DEP. FT.	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC (in)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS	% MC	DRY DENS. pcf	% #200	LL (%)	PI (%)	
				GEOLOGIC DESCRIPTION & OTHER REMARKS								
				ASPHALTIC CEMENT CONCRETE PAVEMENT		0.3'	FILL					
	S1	4	16"	Brown to dark brown, Damp to moist, Loose, VERY SILTY FINE SAND			SM		15.7	NV	NP	
6				ALLUVIUM		7.0'						
	S2	7	18"	Brown and gray mixed, Very moist, Medium stiff, SILTY LEAN CLAY			CL		80.9	32.9	17.7	
				ALLUVIUM		8.5'						
				Brown and gray mixed, Wet, Loose, POORLY GRADED SAND								
12				Gray below 12 feet					1.4			
	S3	8	16"				SP					
18	S4	3	9"									
24	S5	17	14"	ALLUVIUM		23.5'			9.6			
				Orangish brown, Wet, Medium dense, POORLY GRADED SAND with silt								
				Medium gray sandy lean clay seams below 27 feet			SP-SM					
30	S6	13	16"	Light gray limestone bedrock in sample S7								
	S7	50/2"	1/2"	ALLUVIUM		31.1'						
				Bottom of Boring @ 31.08'								
36												
42												



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 (515) 270-6542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/16/12

BORING LOG No. TB-5

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER					
TB-5		Offset 5' South & 1' West		Existing Surface	N/A	DAH	JLH					
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG					
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Asphalt Street		Mobile B-57					
					DRILLING METHOD		TOTAL DEPTH					
12'		10'		Backfilled		3 1/4-Inch Hollow Stem Augers		36' 1"				
SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA					
DEP. FT.	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC. (in)	COLOR, MOISTURE, CONSISTENCY GEOLOGIC DESCRIPTION & OTHER REMARKS		USCS CLASS	% MC	DRY DENS. pcf	% $< \#200$	LL (%)	PI (%)	
				ASPHALTIC CEMENT CONCRETE PAVEMENT 0.5'		FILL						
	S1	3	18"	Dark brown, Damp to moist, Soft, SANDY LEAN CLAY interbedded with very silty fine sand seams		CL	20	103	61.2	25.3	9.2	
	U2	PP=75	14"									
6									82.1	29.2	11.9	
	S3	4	18"									
				ALLUVIUM 10.0'		SM						
12	S4	6	18"	Brown, Wet, Loose to medium dense, VERY SILTY FINE TO COARSE SAND with gray sandy lean clay seams								
				ALLUVIUM 17.0'		SP			3.0			
18	S5	8	14"	Medium to dark brown, Wet, Loose to medium dense, POORLY GRADED SAND								
				ALLUVIUM 22.0'		SM			49.6			
24	S6	15	18"	Brown, Wet, Loose to medium dense, SILTY FINE TO COARSE SAND interbedded with gray rust mottled sandy lean clay seams								
	S7	6	18"	Light gray limestone bedrock in sample S9					55.5			
30	S8	9	18"									
				ALLUVIUM 36.1'								
36	S9	50/1"	1"	Bottom of Boring @ 36.08'								
42												



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(515) 270-6542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/16/12

BORING LOG No. TB-6

BORING NO.		LOCATION OF BORING		ELEVATION		DATUM		DRILLER		LOGGER	
TB-6		Offset 45' East & 12' South		Existing Surface		N/A		DAH		JLH	
WATER LEVEL OBSERVATIONS						TYPE OF SURFACE			DRILL RIG		
WHILE DRILLING		END OF DRILLING		24 HOURS AFTER DRILLING		Asphalt Street			Mobile B-57		
10'		9' 6"		Backfilled		3 1/4-inch Hollow Stem Augers			TOTAL DEPTH		
32' 1"											
SAMPLE DATA				SOIL DESCRIPTION				LABORATORY DATA			
DEP. FT.	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC. (In)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS.	% MC	DRY DENS. pcf	% <#200	LL (%)	PI (%)
				GEOLOGIC DESCRIPTION & OTHER REMARKS							
				ASPHALTIC CEMENT CONCRETE PAVEMENT		0.5'	FILL				
				Dark brown, Moist, SILTY LEAN CLAY trace gravel		2.0'	CL				
	U1	PP=0*	15"	MAN-MADE FILL		3.0'	CL				
	S2	5	18"	Dark to very dark brown, Moist, SILTY LEAN CLAY			SM		30.3	14.1	NP
6				*Sand in bottom of U1							
				ALLUVIUM							
				Brown, Damp, Loose, SILTY FINE SAND		7.0'					
	S3	4	18"	ALLUVIUM							
				Brown, Very moist, Loose, VERY SILTY FINE TO COARSE SAND with brown and gray mixed sandy lean clay seams			SM				
				Wet below 10 feet							
12				ALLUVIUM		12.0'					
	S4	12	16"	Brown, Wet, Loose to Medium dense, POORLY GRADED SAND					0.6		
18	S5	2	10"				SP		0.8	NV	NP
				ALLUVIUM		23.0'			18.9		
24	S6	10	14"	Light gray, Wet, Medium dense, VERY SILTY FINE SAND			SM				
				ALLUVIUM		27.0'					
				Light gray, Wet, Medium dense, SILTY FINE TO COARSE SAND							
30	S7	21	14"				SM				
				Light gray limestone bedrock in sample S8							
	S8	50/3"	3"	ALLUVIUM		32.3'					
				Bottom of Boring @ 32.25'							
36											
42											

BORING LOG No. TB-7

BORING NO.	LOCATION OF BORING	ELEVATION	DATUM	DRILLER	LOGGER
TB-7	Offset 5' North	Existing Surface	N/A	DAH	JLH
WATER LEVEL OBSERVATIONS			TYPE OF SURFACE		DRILL RIG
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING	Asphalt Street		Mobile B-57
			DRILLING METHOD		TOTAL DEPTH
9'	8'	Backfilled	3 1/4-Inch Hollow Stem Augers		33'

SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA				
DEP. FT.	SAMPLE NO. & TYPE	N° BLOWS (FT)	REC. (in)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS.	% MC	DRY DENS. pcf	% #200	LL (%)	PI (%)
				ASPHALTIC CEMENT CONCRETE PAVEMENT		FILL					
				Dark brown, Moist, SILTY LEAN CLAY with sand		CL					
	U1	PP=1.0	13"	ALLUVIUM							
	S2	4	12"	Brown and gray mixed, Moist, Medium stiff, SILTY LEAN CLAY							
6				Gray rust mottled below 7 feet							
	U3	PP=75	15"			CL			72.6	27.7	13.0
				ALLUVIUM							
12	S4	WOH	1"	Gray, Wet, Loose, SILTY FINE TO COARSE SAND							
				Brown and trace fine gravel below 17 feet		SP-SM					
18	S5	4	16"						7.7	NV	NP
				ALLUVIUM							
24	S6	8	18"	Light gray, Moist, Medium stiff, SANDY LEAN CLAY interbedded with gray very silty fine sand seams		CL					
				ALLUVIUM							
	S7	30	18"	Gray, Wet, Dense, VERY SILTY FINE SAND					36.6	18.4	4.3
30						SC-SM					
				Light gray limestone bedrock in sample S8							
	S8	50/5"	5"	ALLUVIUM							
				Bottom of Boring @ 32.5'							
36											
42											



GSI Geotechnical Services, Inc.
 10607 Aurora Avenue, Urbandale, Iowa 50322
 (515) 270-6542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/16/12

BORING LOG No. TB-8

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER				
TB-8		Offset 6' South		Existing Surface	N/A	DAH	JLH				
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG				
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Asphalt Street		Mobile B-57				
					DRILLING METHOD		TOTAL DEPTH				
10'		7 1/2'		Backfilled	3 1/4-Inch Hollow Stem Augers		31' 11"				
SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA				
DEP. FT.	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC. (In)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS.	% MC	DRY DENS. pcf	% #200	LL (%)	PI (%)
				GEOLOGIC DESCRIPTION & OTHER REMARKS							
				ASPHALTIC CEMENT CONCRETE PAVEMENT		0.5'	FILL				
				Brown, Damp, VERY SILTY FINE TO COARSE SAND with fine gravel		2.0'	SM				
	S1	4	16"	MAN-MADE FILL							
	U2	PP=.5	15"	Brown and gray mixed rust mottled, Moist, Medium stiff, SILTY LEAN CLAY			CL	22	104	88.5	37.2 22.4
6											
	U3	PP=.75	13"								
				ALLUVIUM							
				Brown and gray mixed, Wet, Loose to medium dense, POORLY GRADED SAND		10.0'					
12	S4	5	14"				SP				
				With fine gravel below 17 feet						1.1	
18	S5	14	6"								
				ALLUVIUM							
	S6	11	18"	Gray, Very moist, Stiff to very stiff, VERY SANDY LEAN CLAY with thin sand seams		22.0'					
24							CL				
	S7	18	14"						64.6		
30				Light gray limestone bedrock in sample S8							
	S8	50/4"	4"	ALLUVIUM		31.9'					
				Bottom of Boring @ 31.92'							
36											
42											



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 (515) 270-8542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/22/12

BORING LOG No. TB-9

BORING NO.	LOCATION OF BORING	ELEVATION	DATUM	DRILLER	LOGGER
TB-9	Offset 6' North	Existing Surface	N/A	DAH	JLH
WATER LEVEL OBSERVATIONS			TYPE OF SURFACE		
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING	Asphalt Street		
			DRILLING METHOD		
9' 7' Backfilled			3 1/4-Inch Hollow Stem Augers		
			28' 6"		

DEP. FT.	SAMPLE DATA			SOIL DESCRIPTION		LABORATORY DATA				
	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC (In)	COLOR, MOISTURE, CONSISTENCY	USCS CLASS.	% MC	DRY DENS. pcf	% #200	LL (%)	PI (%)
				ASPHALTIC CEMENT CONCRETE PAVEMENT	FILL					
				Brown, Damp, SILTY LEAN CLAY with sand and fine gravel	CL					
	S1	6	12"	MAN-MADE FILL						
6	U2	PP=75	14"	Dark brown, Moist, Medium stiff, SILTY LEAN TO FAT CLAY	CL-CH	29	82	92.0	49.6	28.4
				ALLUVIUM						
	U3	PP=0"	13"	Brown rust mottled, Moist, Medium dense, POORLY GRADED SAND with silt						
	S4	10	18"	*Sand in bottom of U3						
12				Wet below 8 feet	SP-SM			6.7		
	S5	16	12"							
18	S6	7	14"	Brown and gray mixed, Very moist, Medium stiff to stiff, VERY SANDY LEAN CLAY with thin sand seams						
				Gray below 22 feet	CL			87.0	32.6	18.4
24	S7	4	9"							
				Light gray limestone bedrock in sample S8						
	S8	64/8"	8"	ALLUVIUM						
30				Bottom of Boring @ 28.5'						
36										
42										



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PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/22/12

BORING LOG No. TB-10

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER					
TB-10		Offset 6' North & 8' West		Existing Surface	N/A	DAH	JLH					
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG					
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Asphalt Street		Mobile B-57					
					DRILLING METHOD		TOTAL DEPTH					
11'		6' 8"		Backfilled		3 1/4-Inch Hollow Stem Augers		21' 1"				
SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA					
DEP. FT.	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC (in)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS.	% MC	DRY DENS. pcf	% <#200	LL (%)	PI (%)	
				GEOLOGIC DESCRIPTION & OTHER REMARKS								
				ASPHALTIC CEMENT CONCRETE PAVEMENT		0.5' FILL						
				Brown, Damp, SILTY LEAN CLAY with sand		1.5' CL						
	U1	PP=75	12"	MAN-MADE FILL								
				Very dark brown and gray mixed, Moist, Medium stiff, SILTY LEAN CLAY		CL	30	90	90.0	38.4	19.6	
6				ALLUVIUM								
	U2	PP=5	12"	Gray and brown mixed, Moist, Soft to medium stiff, SANDY LEAN CLAY			26	97	89.4	34.4	18.1	
12				Very moist below 11 feet		CL						
	U3	PP<.25	10"	Thin wet sand seams below 12 feet			39	79	87.9	37.7	16.9	
18	S4	50	3"	ALLUVIUM		CH						
				Light bluish gray, Moist, FAT CLAY (CLAY SHALE)								
				Light gray limestone bedrock in sample S5								
	S5	50/1"	1"	PENNSYLVANIAN BEDROCK								
				Bottom of Boring @ 21.08'								
24												
30												
36												
42												



GSI Geotechnical Services, Inc.
 10607 Aurora Avenue, Urbandale, Iowa 50322
 (515) 270-6642 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/23/12

BORING LOG No. TB-11

BORING NO.		LOCATION OF BORING		ELEVATION	DATUM	DRILLER	LOGGER				
TB-11		Offset 100' East & 30' North		Existing Surface	N/A	DAH	JLH				
WATER LEVEL OBSERVATIONS					TYPE OF SURFACE		DRILL RIG				
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING			Grass & Weeds		Mobile B-57				
					DRILLING METHOD		TOTAL DEPTH				
11'		7'		Backfilled	3 1/4-inch Hollow Stem Augers		40' 6"				
SAMPLE DATA				SOIL DESCRIPTION			LABORATORY DATA				
DEP. FT.	SAMPLE NO. & TYPE	"N" BLOWS (FT)	REC. (In)	COLOR, MOISTURE, CONSISTENCY		USCS CLASS.	% MC	DRY DENS. pcf	% <#200	LL (%)	PI (%)
				GEOLOGIC DESCRIPTION & OTHER REMARKS							
				Dark brown, Moist, SILTY LEAN CLAY with organic matter TOPSOIL		CL					
	U1	PP=3.5	14"	Gray rust mottled, Moist, Stiff, SILTY LEAN CLAY		CL	25	97	94.0	44.9	25.8
6				MAN-MADE FILL							
	U2	PP<.25	12"	Gray, Moist to very moist, Soft, SANDY LEAN CLAY		CL	39	82	91.5	38.5	22.7
12				ALLUVIUM							
	S3	4	12"	Brown, Wet, Loose to medium dense, SILTY FINE TO MEDIUM SAND							
18				Light brown very sandy lean clay seams below 17 feet		SM					
	S4	9	12"	ALLUVIUM							
24	S5	9	10"	Dark gray, Wet, Loose, SILTY FINE TO COARSE SAND					27.3		
				Gray very sandy lean clay seams below 27 feet		SM					
30	S6	6	18"	ALLUVIUM							
	S7	7	12"	Gray, Very moist, Stiff, SANDY LEAN CLAY							
36				Light gray limestone bedrock in sample S9		CL					
	S8	28	12"	ALLUVIUM							
	S9	50/3"	3"	Bottom of Boring @ 40.5'							
42											

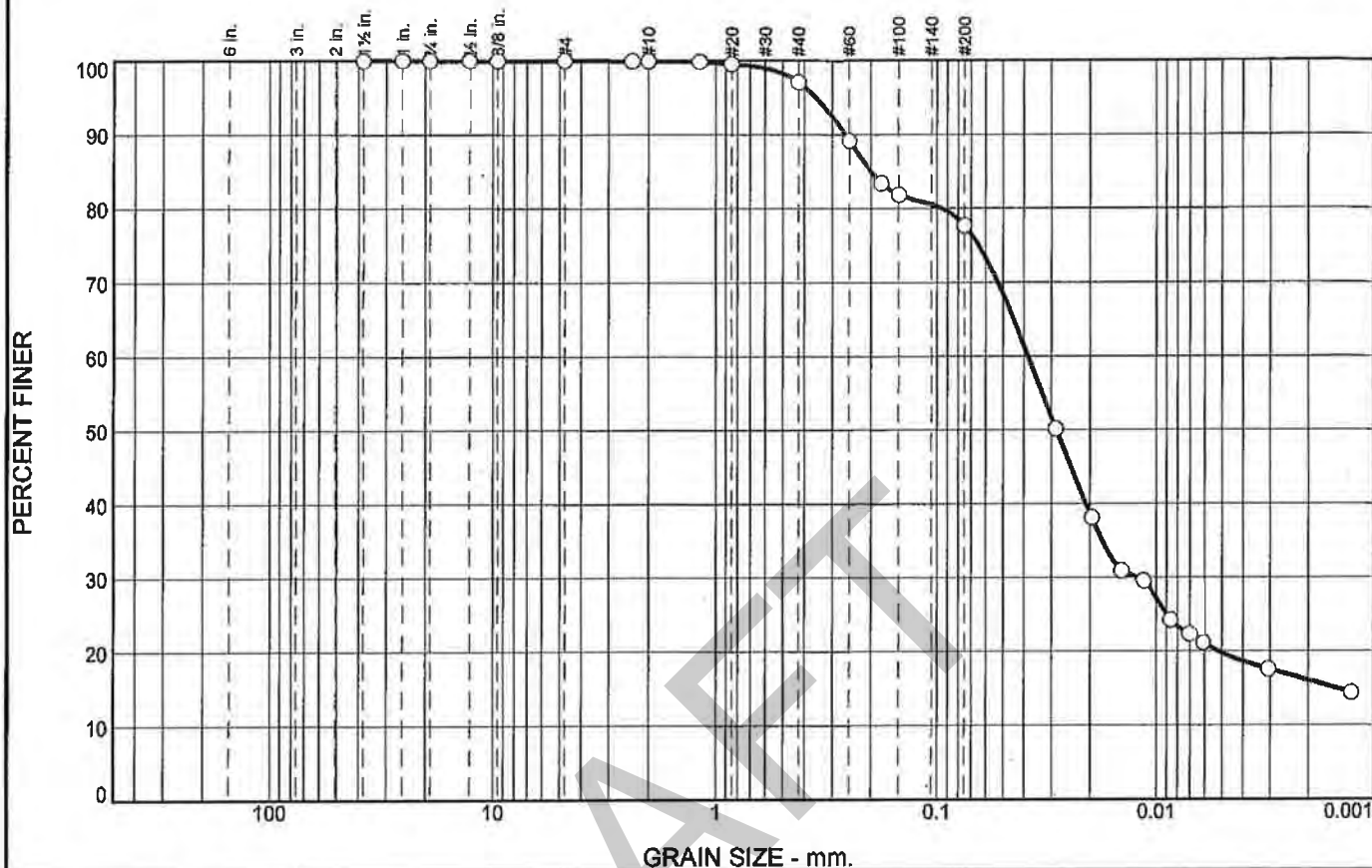


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 10807 Aurora Avenue, Urbandale, Iowa 50322
 (515) 270-6542 FAX (515) 270-1911

PROJECT: Taft Speedway Levee
LOCATION: Taft Speedway, Iowa City
JOB NO.: 126026
DATE: 2/22/12

DRAFT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.9	19.4	57.9	19.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.9		
#20	99.6		
#40	97.1		
#60	89.2		
#80	83.4		
#100	81.8		
#200	77.7		

(no specification provided)

Material Description

PL= **Atterberg Limits** LL= PI=

Coefficients

D₉₀= 0.2608 D₈₅= 0.2002 D₆₀= 0.0384
D₅₀= 0.0286 D₃₀= 0.0120 D₁₅= 0.0015
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed
F.M.=0.27

Source of Sample: TB-1
Sample Number: U1

Depth: 2.5

Date: 3/19/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-5542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

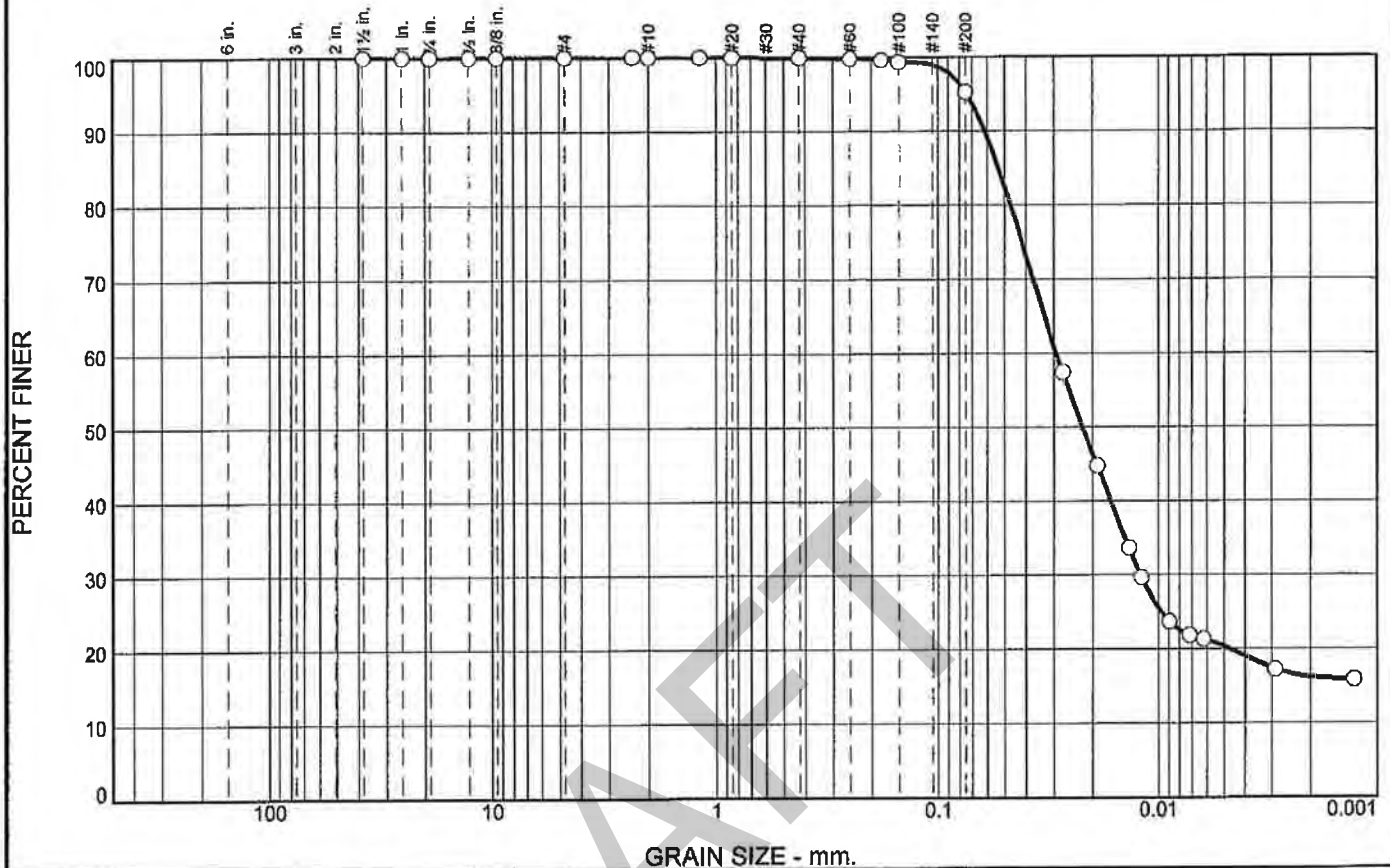
Project No: 126026

Figure

Tested By: JLH/BAY

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	4.6	75.0	20.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#40	99.9		
#60	99.8		
#80	99.6		
#100	99.3		
#200	95.3		

(no specification provided)

Material Description		
PL= 18.1	<u>Atterberg Limits</u> LL= 31.2	PI= 13.1
D ₉₀ = 0.0615	<u>Coefficients</u> D ₈₅ = 0.0533	D ₆₀ = 0.0294
D ₅₀ = 0.0223	D ₃₀ = 0.0122	D ₁₅ =
D ₁₀ =	C _u =	C _c =
USCS= CL	<u>Classification</u> AASHTO= A-6(12)	
<u>Remarks</u> Specific Gravity Assumed F.M.=0.01		

Source of Sample: TB-1
Sample Number: U2

Depth: 7.5

Date: 4/10/12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-8642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

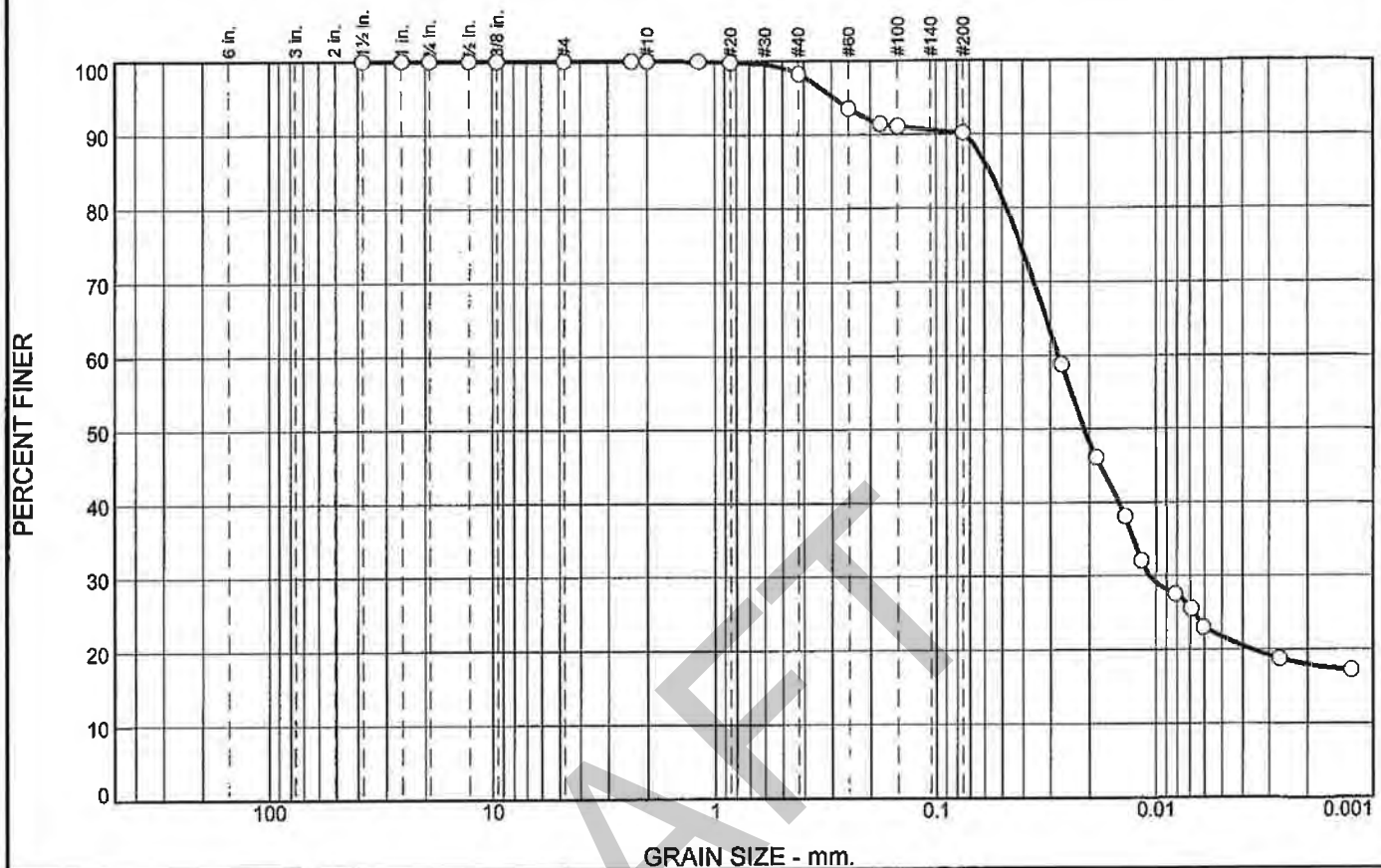
Project No: 126026

Figure

Tested By: JLH/RSR

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.7	8.0	68.5	21.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	99.9		
#40	98.3		
#60	93.5		
#80	91.5		
#100	91.1		
#200	90.3		

(no specification provided)

Material Description

PL= 13.1 **Atterberg Limits** LL= 31.4 PI= 18.3

Coefficients

D₉₀= 0.0735 D₈₅= 0.0568 D₆₀= 0.0277
D₅₀= 0.0212 D₃₀= 0.0107 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(15)

Remarks

Specific Gravity Assumed
F.M.=0.14

Source of Sample: TB-1
Sample Number: U3

Depth: 12.5

Date: 4/13/12

GSI Geotechnical Services, Inc.
10907 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

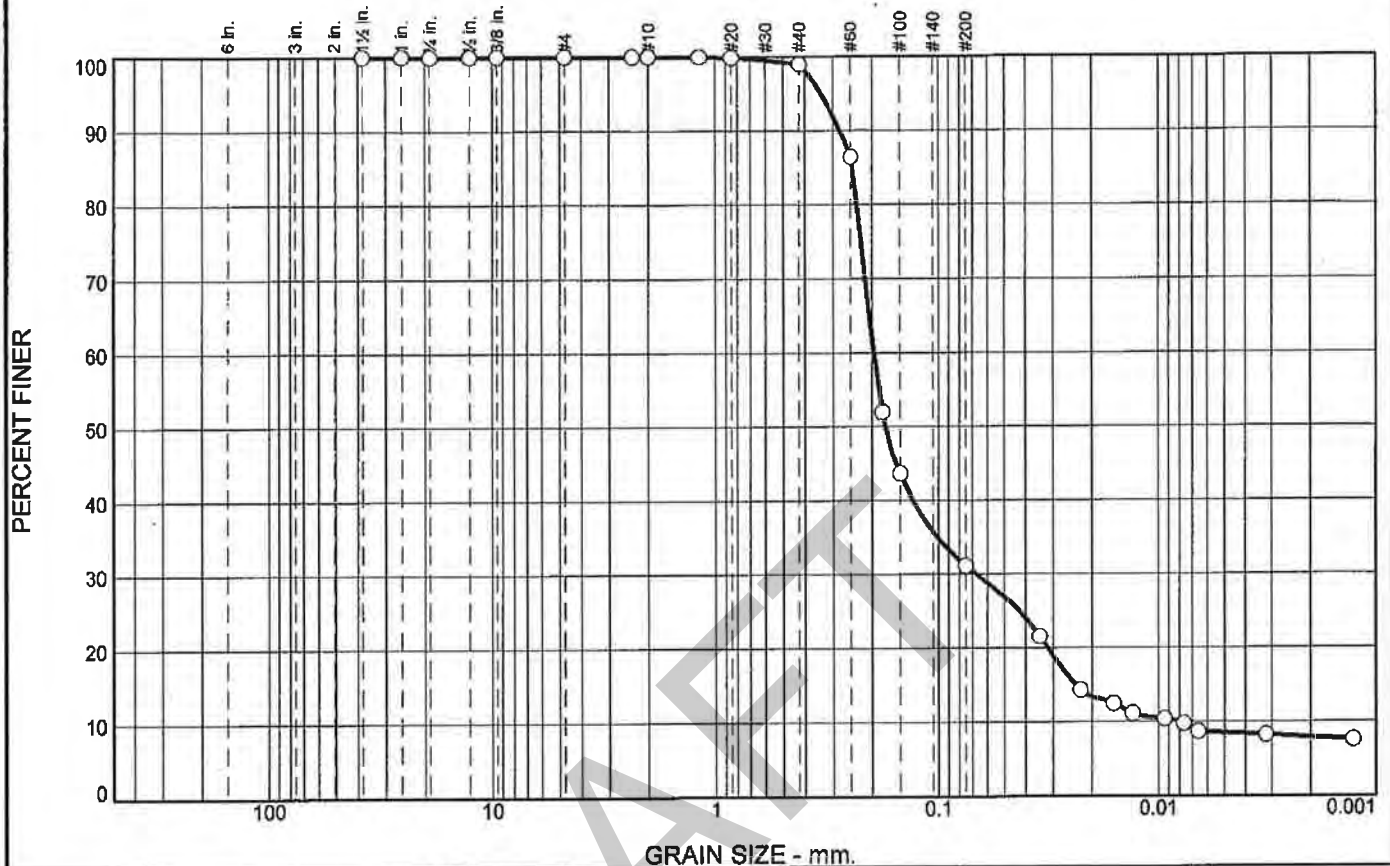
Project No: 126026

Figure

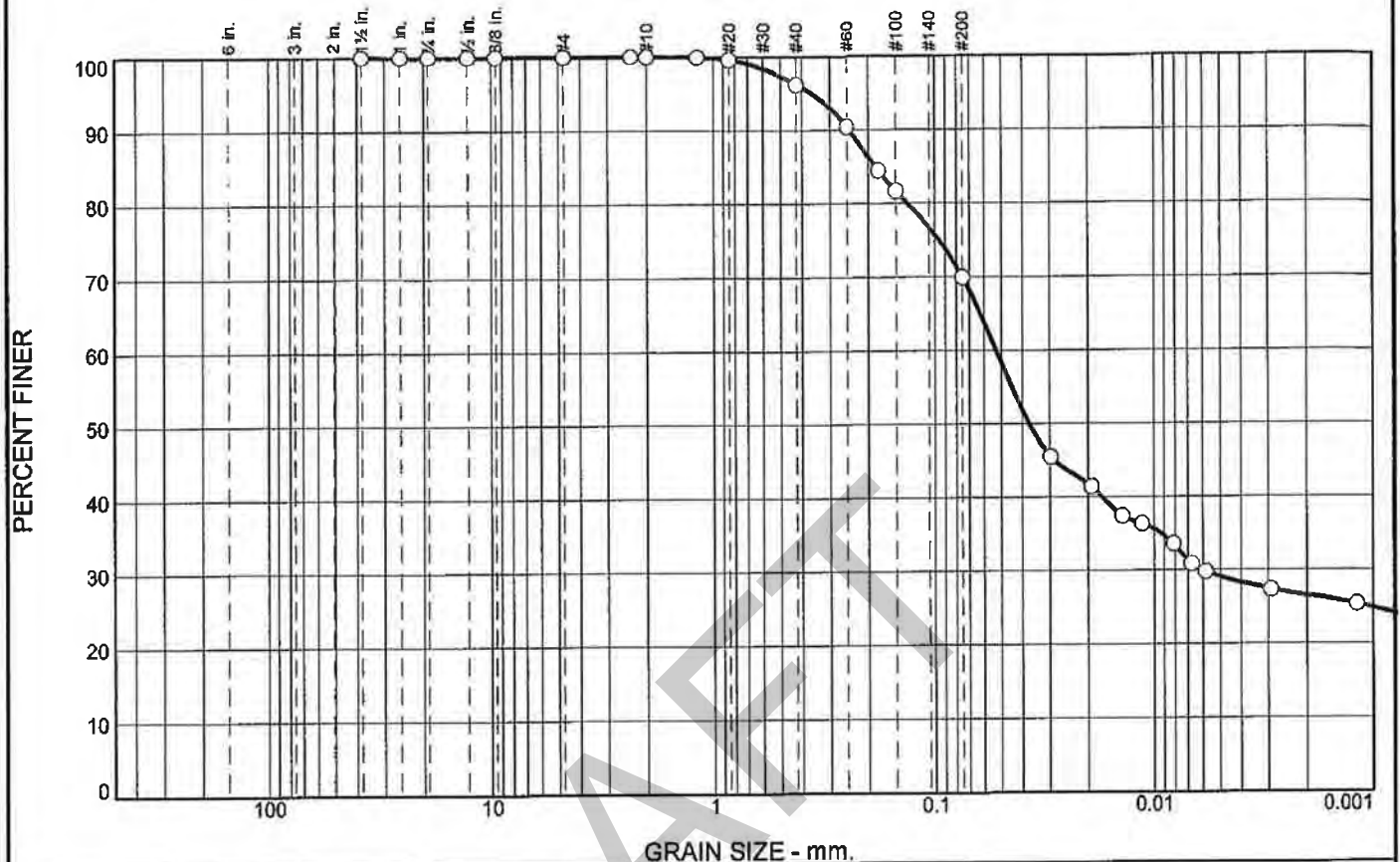
Tested By: JLH/RSR

Checked By: MTL

Particle Size Distribution Report



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.8	26.3	40.8	29.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.9		
#20	99.6		
#40	96.2		
#60	90.4		
#80	84.4		
#100	81.6		
#200	69.9		

(no specification provided)

Material Description

PL= **Atterberg Limits** PI=

LL=

Coefficients

D₉₀= 0.2437 D₈₅= 0.1858 D₆₀= 0.0529

D₅₀= 0.0373 D₃₀= 0.0061 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=0.27

Source of Sample: TB-1
Sample Number: S7

Depth: 32.5

Date: 3/6/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8842 FAX (515) 270-1911

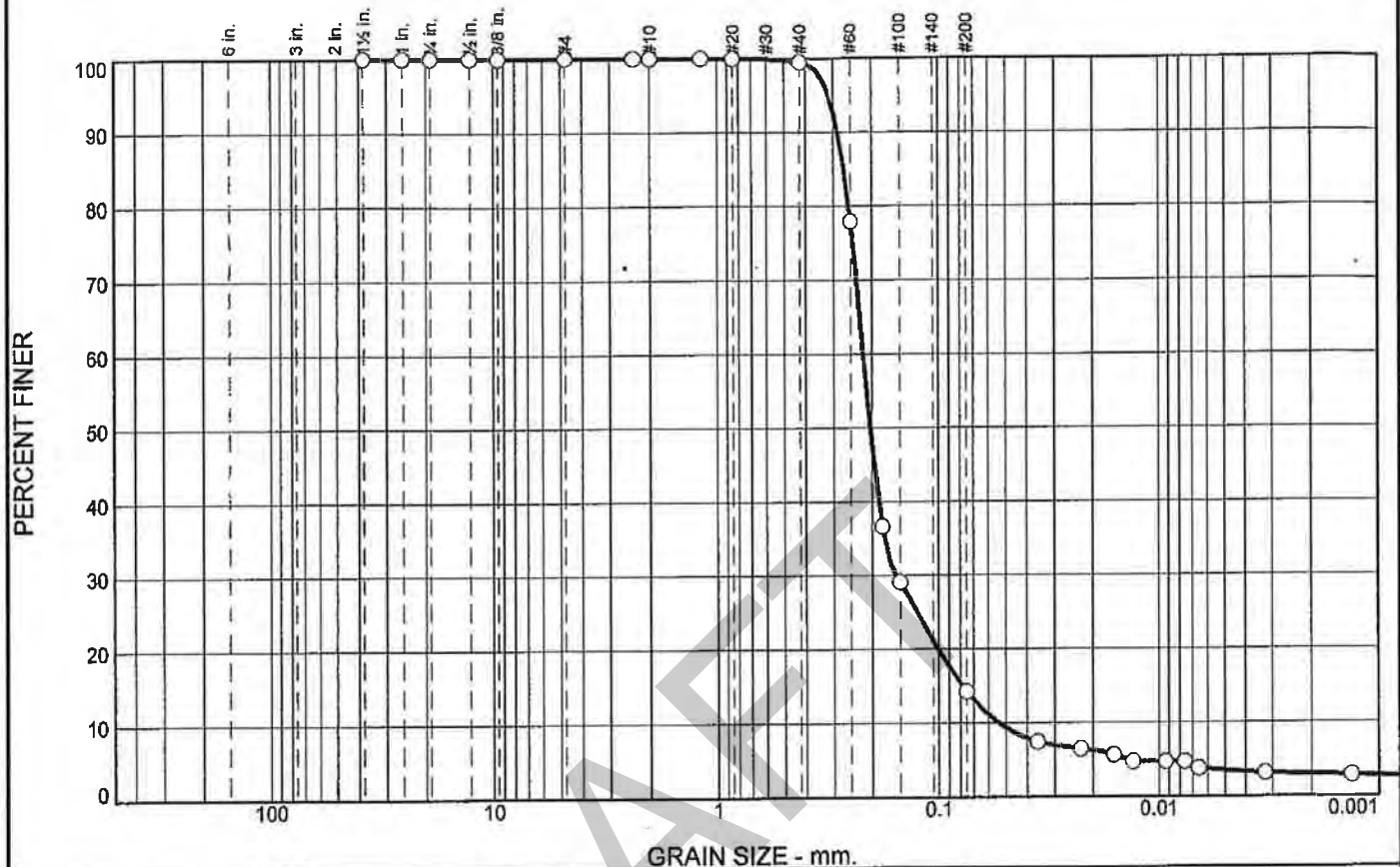
Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

Project No: 126026

Figure

Tested By: JLH

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	85.2	10.7	3.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#40	99.4		
#60	77.9		
#80	36.6		
#100	29.1		
#200	14.2		

(no specification provided)

Material Description		
PL=	<u>Atterberg Limits</u> LL=	PI=
D ₉₀ = 0.2866	<u>Coefficients</u> D ₈₅ = 0.2683	D ₆₀ = 0.2186
D ₅₀ = 0.2034	D ₃₀ = 0.1561	D ₁₅ = 0.0784
D ₁₀ = 0.0539	C _u = 4.06	C _c = 2.07
USCS=	<u>Classification</u> AASHTO=	
<u>Remarks</u> Specific Gravity Assumed F.M.=0.78		

Source of Sample: TB-2
Sample Number: S2

Depth: 4

Date: 3/6/12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-0642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

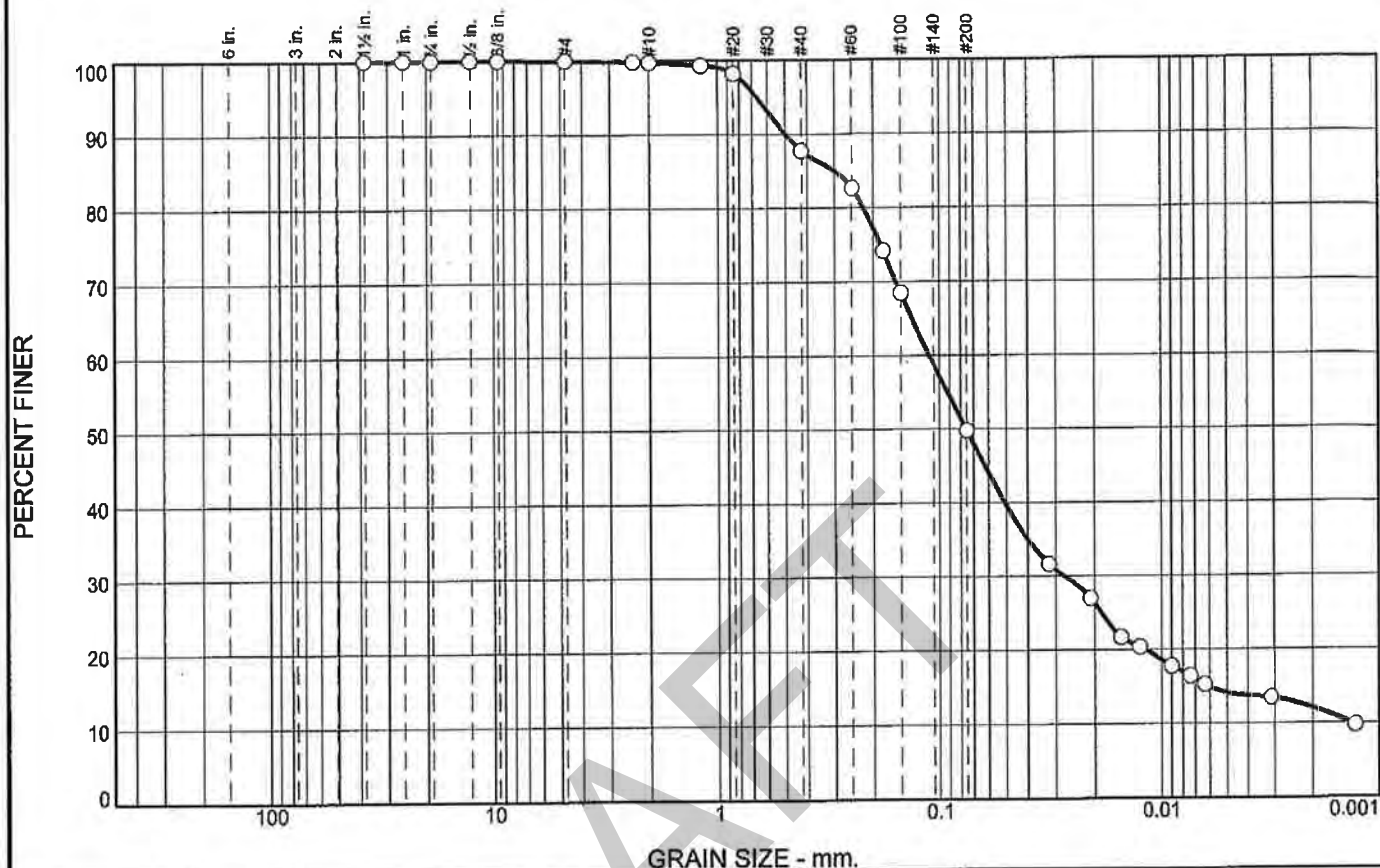
Project No: 126026

Figure

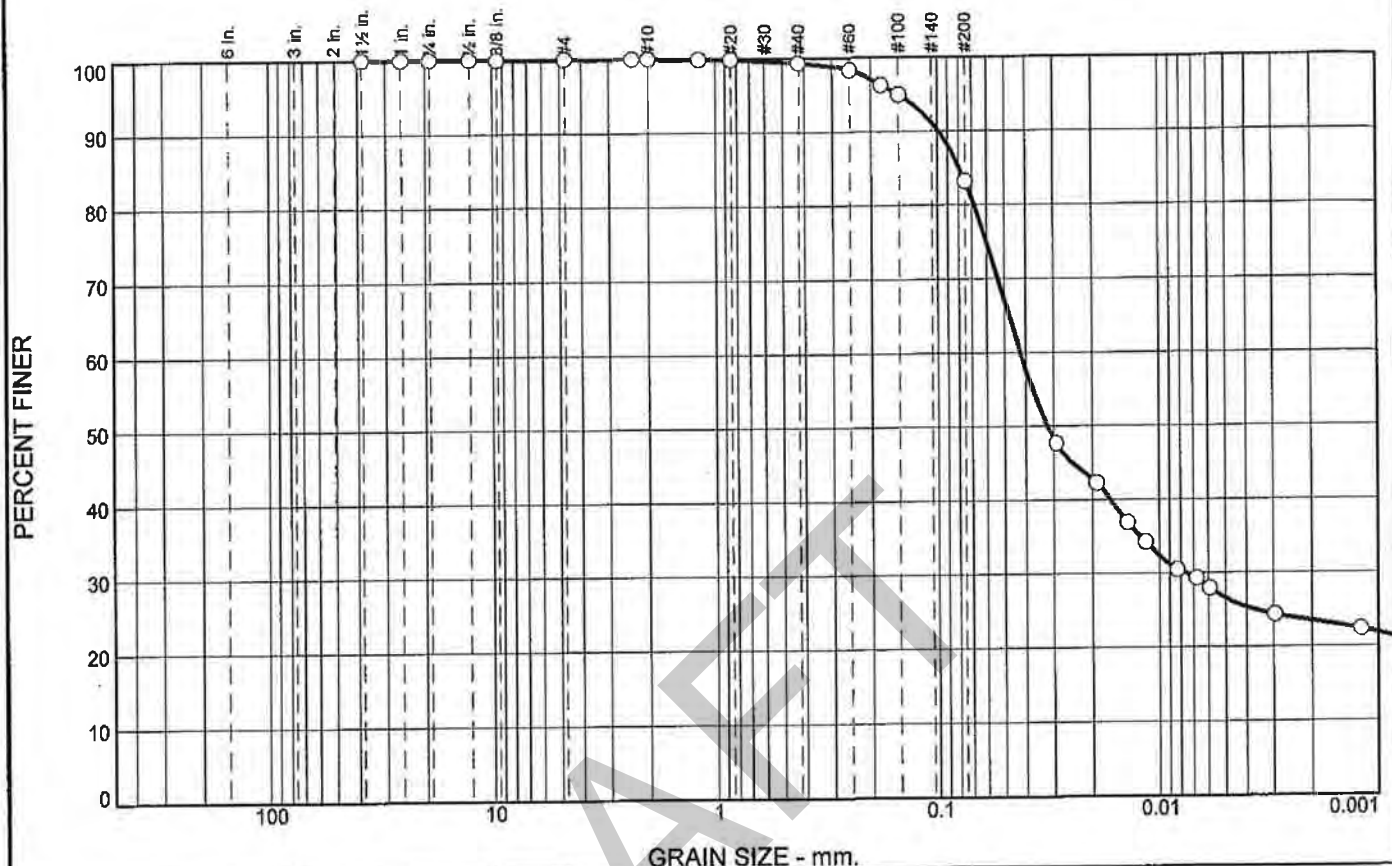
Tested By: JLH/JLW

Checked By: MTL

Particle Size Distribution Report



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.7	16.0	56.7	26.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.9		
#20	99.9		
#40	99.3		
#60	98.3		
#80	96.3		
#100	95.0		
#200	83.3		

* (no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 0.0988 D₈₅= 0.0795 D₆₀= 0.0424

D₅₀= 0.0321 D₃₀= 0.0076 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=0.07

Source of Sample: TB-2
Sample Number: S7

Depth: 27.5

Date: 3/6/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(815) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

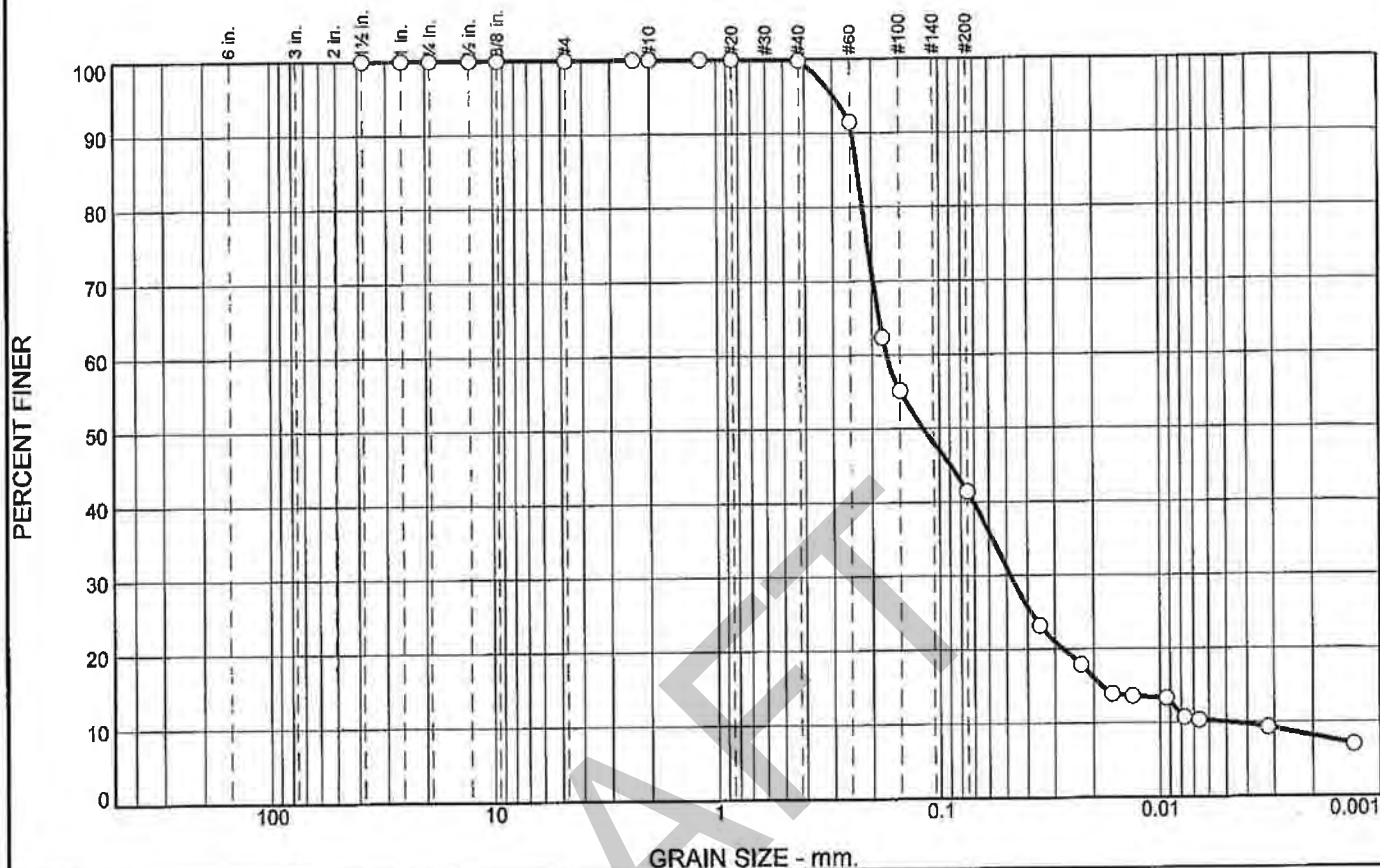
Project No: 126026

Figure

Tested By: JLH/JLW

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	58.4	31.5	10.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#40	99.9		
#60	91.5		
#80	62.4		
#100	55.2		
#200	41.5		

(no specification provided)

Material Description		
PL= NP	<u>Atterberg Limits</u> LL= 15.6	PI= NP
D ₉₀ = 0.2451	<u>Coefficients</u> D ₈₅ = 0.2313	D ₆₀ = 0.1726
D ₅₀ = 0.1181	D ₃₀ = 0.0479	D ₁₅ = 0.0184
D ₁₀ = 0.0048	C _u = 35.85	C _c = 2.76
USCS= SM	<u>Classification</u> AASHTO= A-4(0)	
<u>Remarks</u> Specific Gravity Assumed F.M.=0.50		

Source of Sample: TB-3
Sample Number: S2

Depth: 4

Date: 3/14/12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-8642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

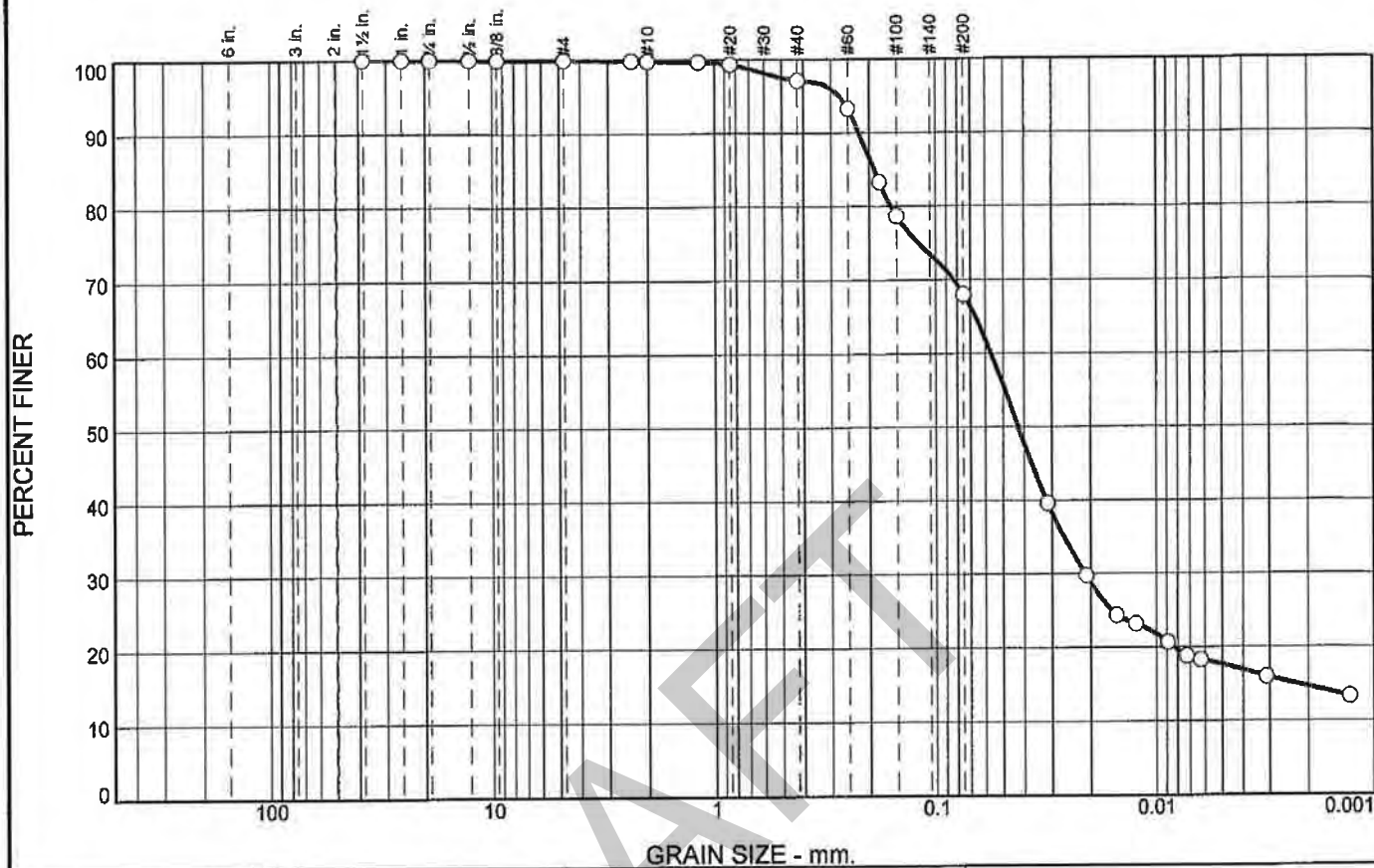
Project No: 126026

Figure

Tested By: JLH/JLW

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	2.7	29.1	50.4	17.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.9		
#10	99.8		
#16	99.7		
#20	99.3		
#40	97.1		
#60	93.2		
#80	83.4		
#100	78.7		
#200	68.0		

(no specification provided)

Material Description

PL= 14.4 **Atterberg Limits** LL= 26.6 PI= 12.2

Coefficients

D₉₀= 0.2218 D₈₅= 0.1898 D₆₀= 0.0566
D₅₀= 0.0427 D₃₀= 0.0212 D₁₅= 0.0023
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(6)

Remarks

Specific Gravity Assumed
F.M.=0.28

Source of Sample: TB-3 Depth: 12.5
Sample Number: U4

Date: 4/16/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

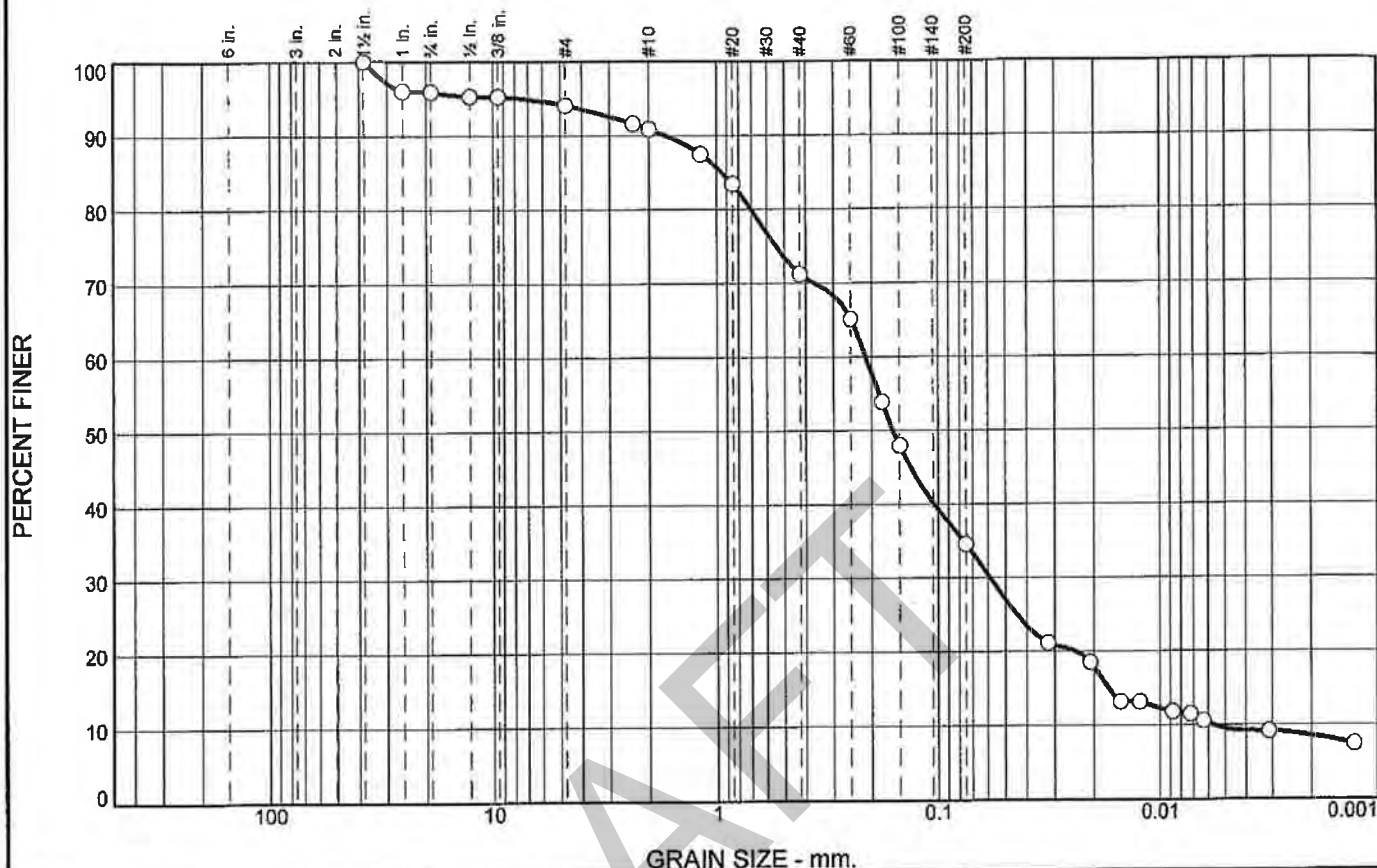
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.0	1.9	3.2	19.7	36.6	25.1	9.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	96.0		
3/4"	96.0		
1/2"	95.3		
3/8"	95.3		
#4	94.1		
#8	91.6		
#10	90.9		
#16	87.4		
#20	83.4		
#40	71.2		
#60	65.1		
#80	53.9		
#100	47.9		
#200	34.6		

(no specification provided)

<u>Material Description</u>		
<u>Atterberg Limits</u>		
PL= 15.7	LL= 19.7	PI= 4.0
<u>Coefficients</u>		
D ₉₀ = 1.6865	D ₈₅ = 0.9452	D ₆₀ = 0.2124
D ₅₀ = 0.1606	D ₃₀ = 0.0587	D ₁₅ = 0.0174
D ₁₀ = 0.0057	C _u = 37.10	C _c = 2.83
<u>Classification</u>		
USCS= SC-SM	AASHTO= A-2-4(0)	
<u>Remarks</u>		
Specific Gravity Assumed		
F.M.=1.42		

Source of Sample: TB-3
Sample Number: S7

Depth: 22.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

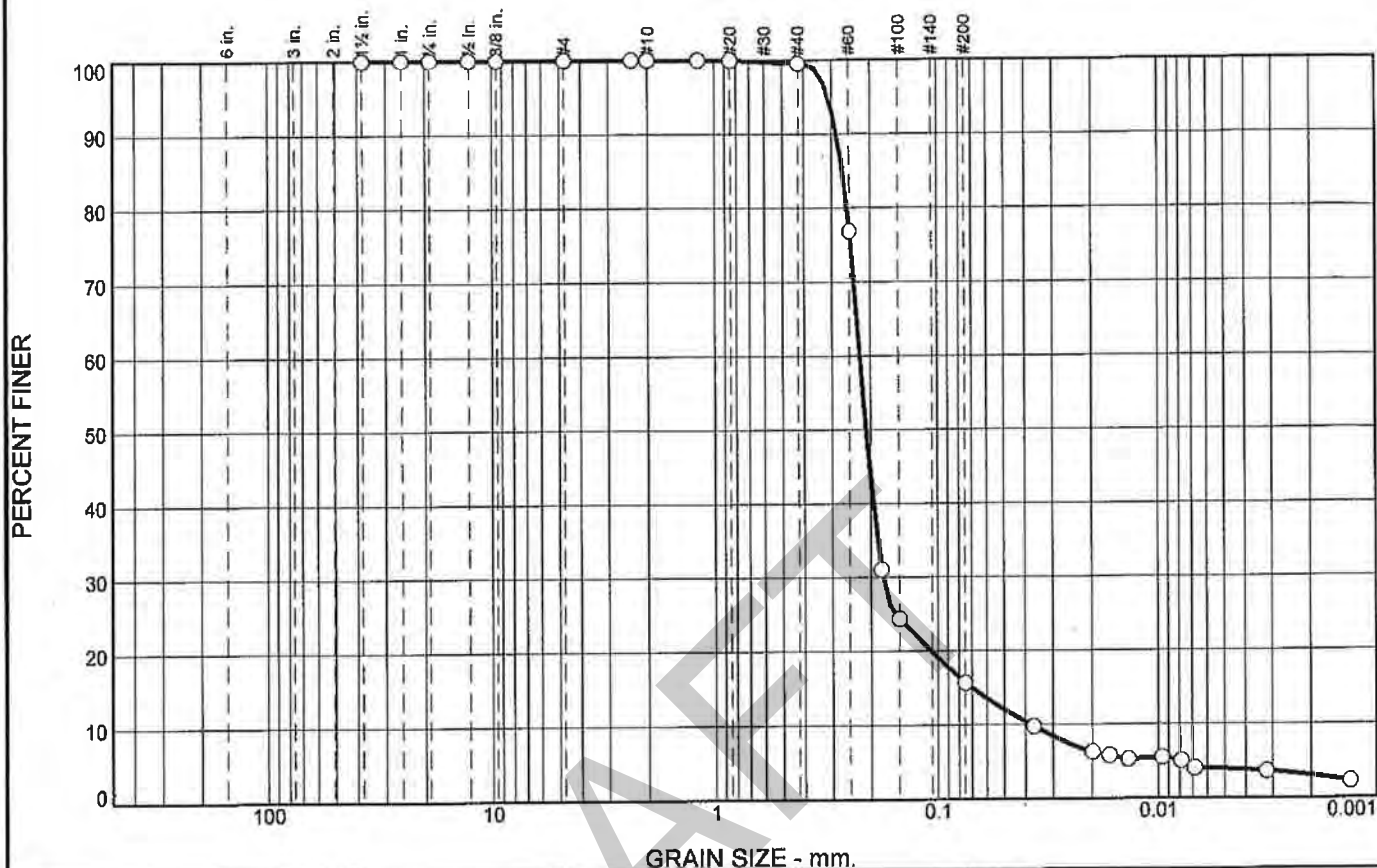
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.5	83.8	11.7	4.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#40	99.5		
#60	76.8		
#80	31.0		
#100	24.4		
#200	15.7		

(no specification provided)

Material Description		
PL= NP	Atterberg Limits LL= NV	PI= NP
D ₉₀ = 0.2858	Coefficients D ₈₅ = 0.2691	D ₆₀ = 0.2230
D ₅₀ = 0.2093	D ₃₀ = 0.1776	D ₁₅ = 0.0699
D ₁₀ = 0.0380	C _u = 5.87	C _c = 3.72
USCS= SM	Classification AASHTO= A-2-4(0)	
Remarks		
Specific Gravity Assumed		
F.M.=0.83		

Source of Sample: TB-4
Sample Number: S1

Depth: 2.5

Date: 3/14

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

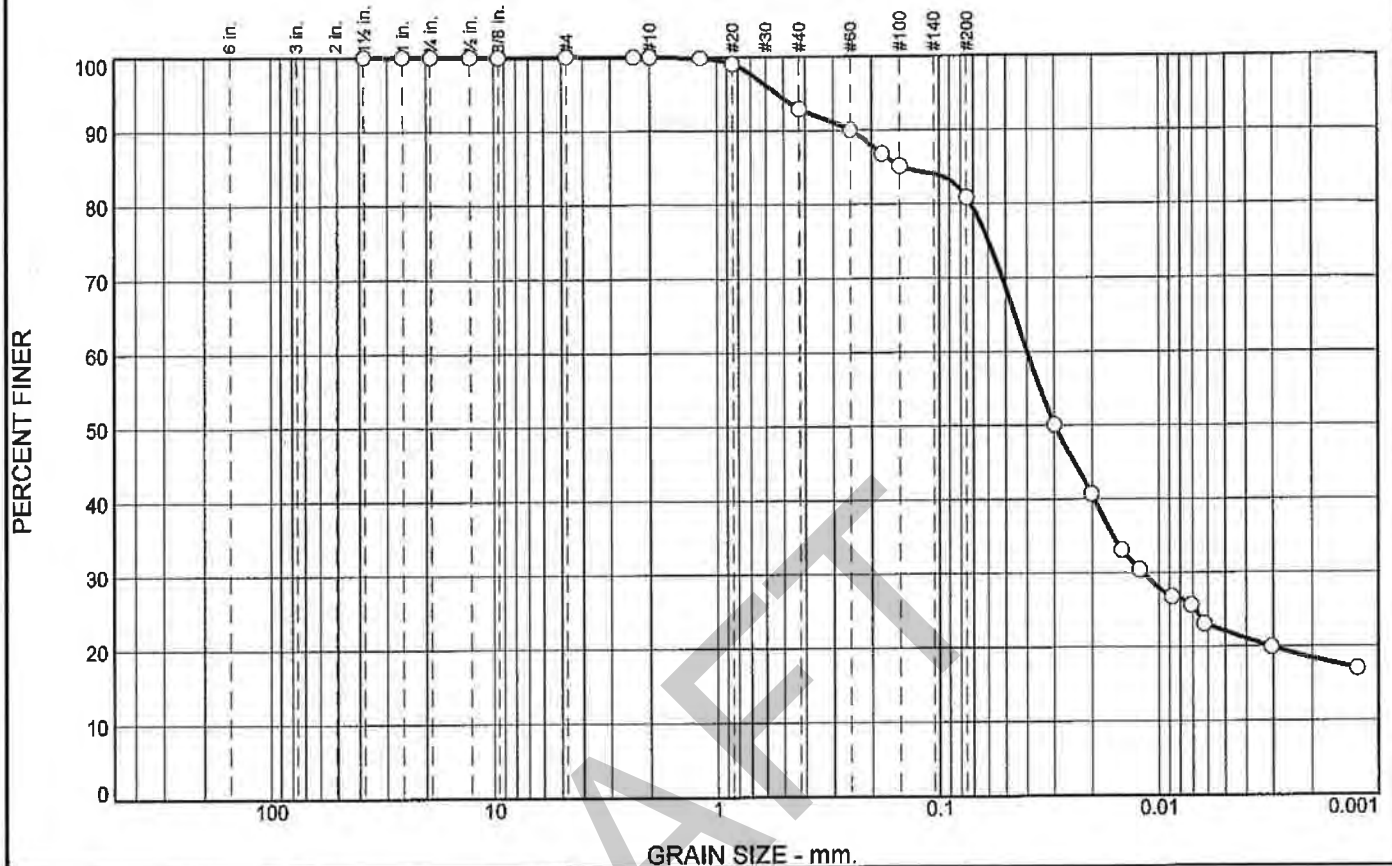
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.1	12.0	58.9	22.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.8		
#20	99.1		
#40	92.9		
#60	90.0		
#80	86.8		
#100	85.1		
#200	80.9		

(no specification provided)

Material Description		
PL= 15.2	<u>Atterberg Limits</u> LL= 32.9	PI= 17.7
D ₉₀ = 0.2505	<u>Coefficients</u> D ₈₅ = 0.1465	D ₆₀ = 0.0400
D ₅₀ = 0.0298	D ₃₀ = 0.0118	D ₁₅ =
D ₁₀ =	C _u =	C _c =
USCS= CL	<u>Classification</u> AASHTO= A-6(13)	
<u>Remarks</u> Specific Gravity Assumed F.M.=0.28		

Source of Sample: TB-4
Sample Number: S2

Depth: 7.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

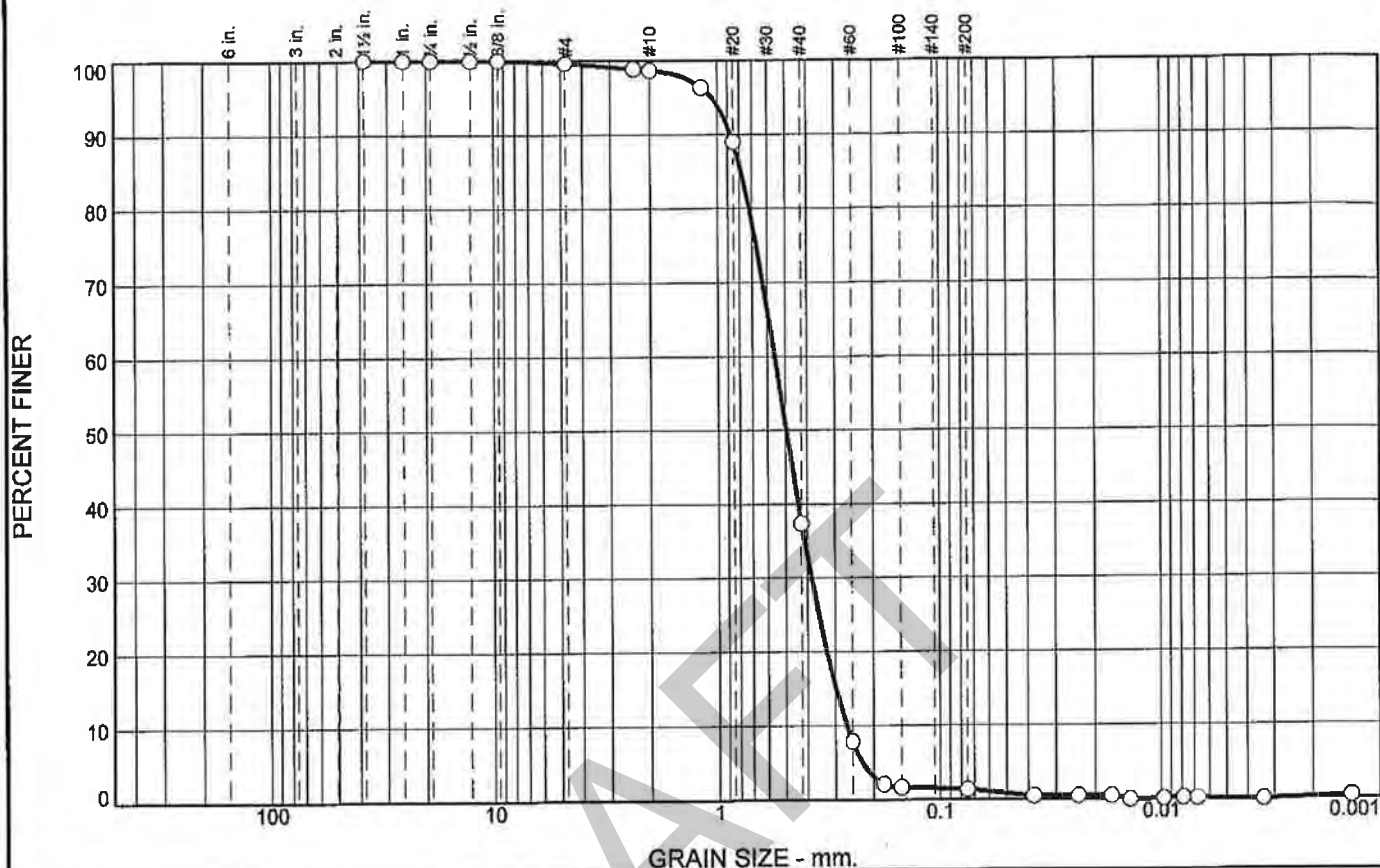
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	0.9	61.3	36.0	1.4	0.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	99.6		
#8	98.9		
#10	98.7		
#16	96.3		
#20	89.0		
#40	37.4		
#60	7.9		
#80	2.1		
#100	1.6		
#200	1.4		

* (no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 0.8714 D₈₅= 0.7842 D₆₀= 0.5580

D₅₀= 0.4960 D₃₀= 0.3844 D₁₅= 0.2985

D₁₀= 0.2657 C_u= 2.10 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Specific Gravity Assumed

F.M.=2.22

Source of Sample: TB-4
Sample Number: S3

Depth: 12.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

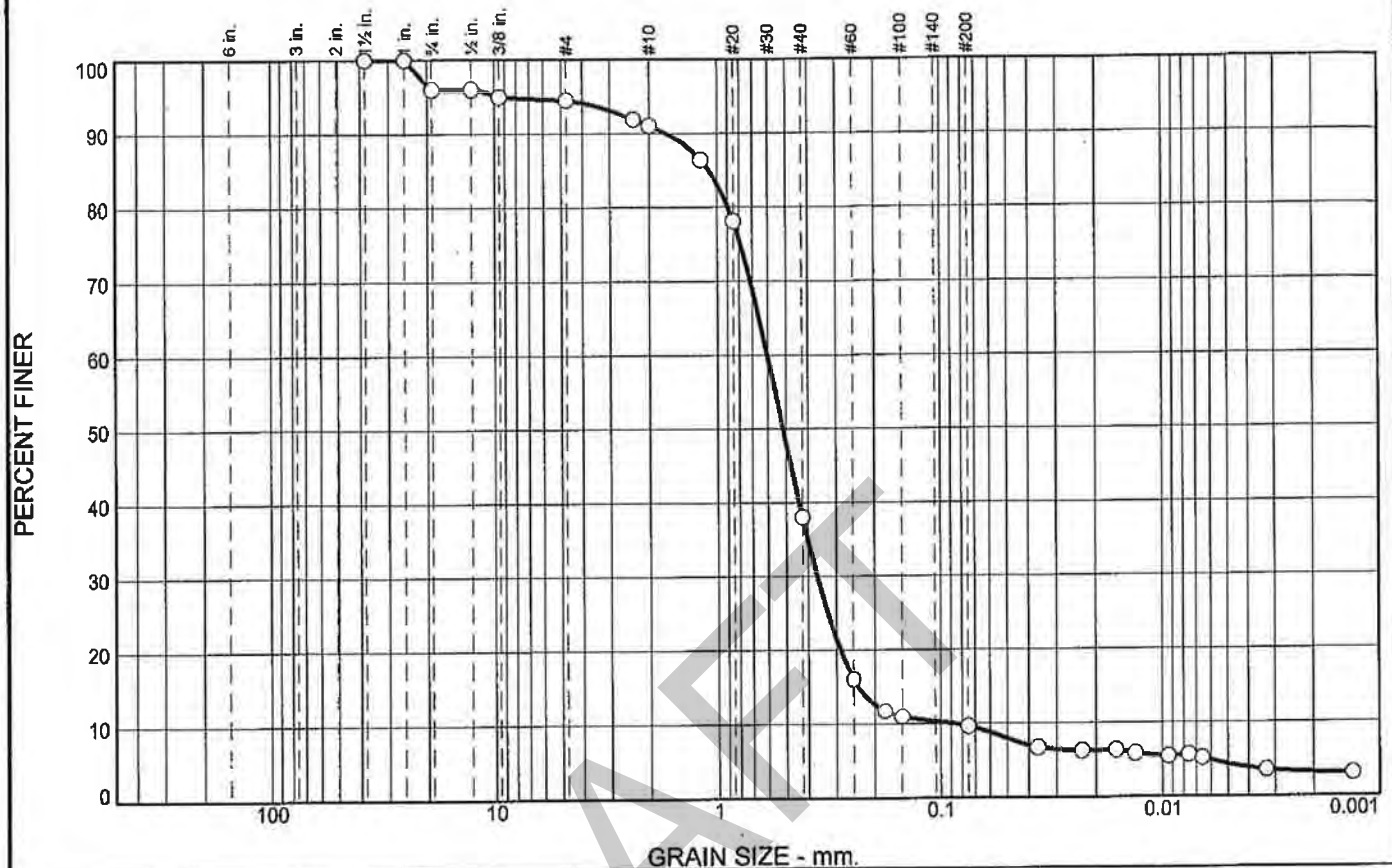
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.0	1.5	3.5	52.9	28.5	5.3	4.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	96.0		
1/2"	96.0		
3/8"	95.0		
#4	94.5		
#8	91.9		
#10	91.0		
#16	86.3		
#20	78.1		
#40	38.1		
#60	16.0		
#80	11.8		
#100	11.0		
#200	9.6		

(no specification provided)

Source of Sample: TB-4
Sample Number: S5

Depth: 22.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

Project No: 126026

Figure

Material Description

PL= **Atterberg Limits** PI=

LL=

Coefficients

D₉₀= 1.6779 D₈₅= 1.0906 D₆₀= 0.6033
D₅₀= 0.5156 D₃₀= 0.3659 D₁₅= 0.2385
D₁₀= 0.0864 C_u= 6.98 C_c= 2.57

Classification

USCS= AASHTO=

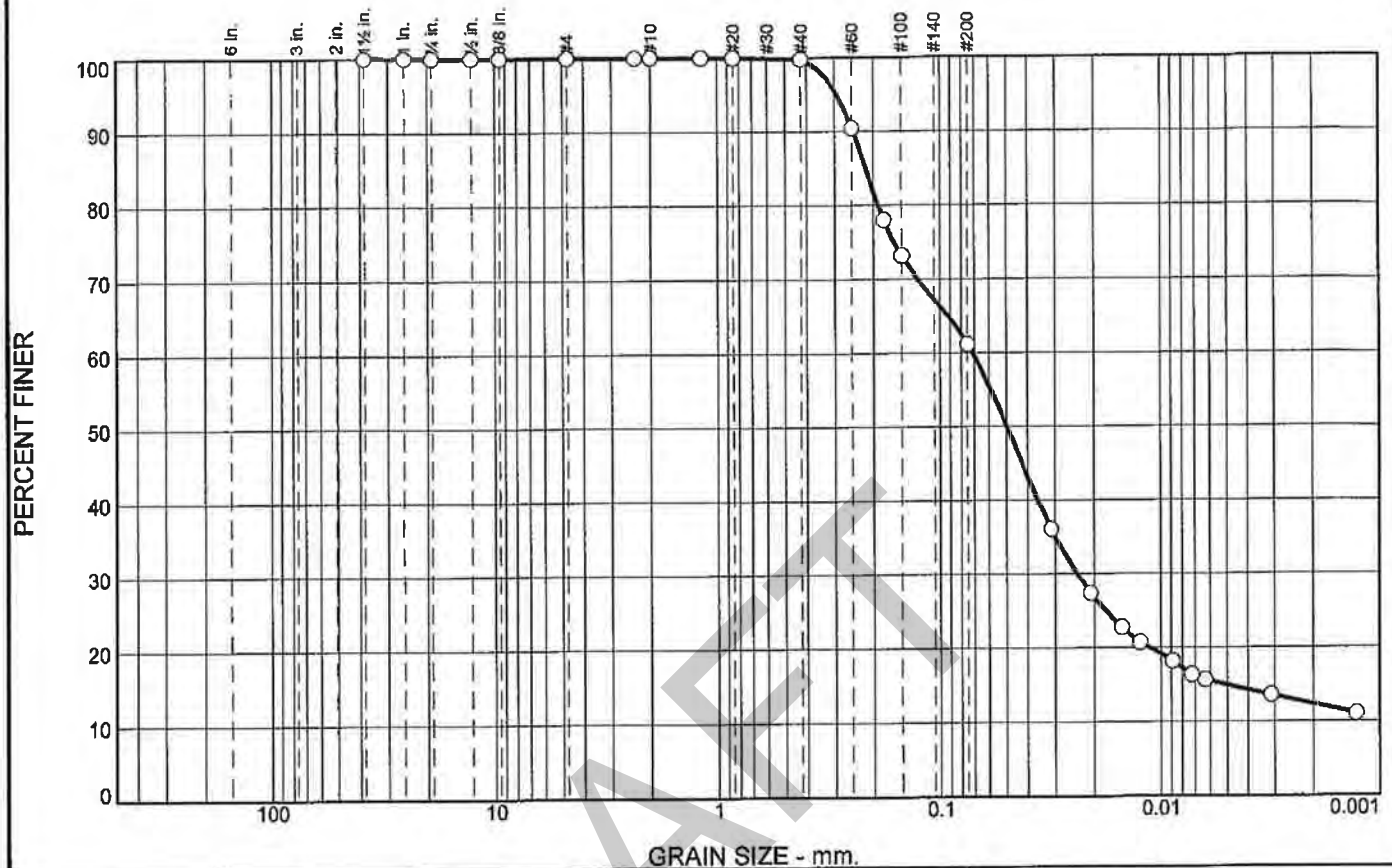
Remarks

Specific Gravity Assumed
F.M.=2.44

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	38.6	46.3	14.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#40	99.8		
#60	90.4		
#80	78.0		
#100	73.1		
#200	61.2		

* (no specification provided)

Material Description

Atterberg Limits
 PL= 16.1 LL= 25.3 PI= 9.2
Coefficients
 D₉₀= 0.2468 D₈₅= 0.2165 D₆₀= 0.0712
 D₅₀= 0.0499 D₃₀= 0.0240 D₁₅= 0.0051
 D₁₀= C_u= C_c=
Classification
 USCS= CL AASHTO= A-4(3)
Remarks
 Specific Gravity Assumed
 F.M.=0.32

Source of Sample: TB-5 Depth: 4
Sample Number: U2

Date: 3/20/12

GSI Geotechnical Services, Inc.
 10807 Aurora Ave. Urbandale, IA 50322
 (515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
 Project: Taft Speedway Levee

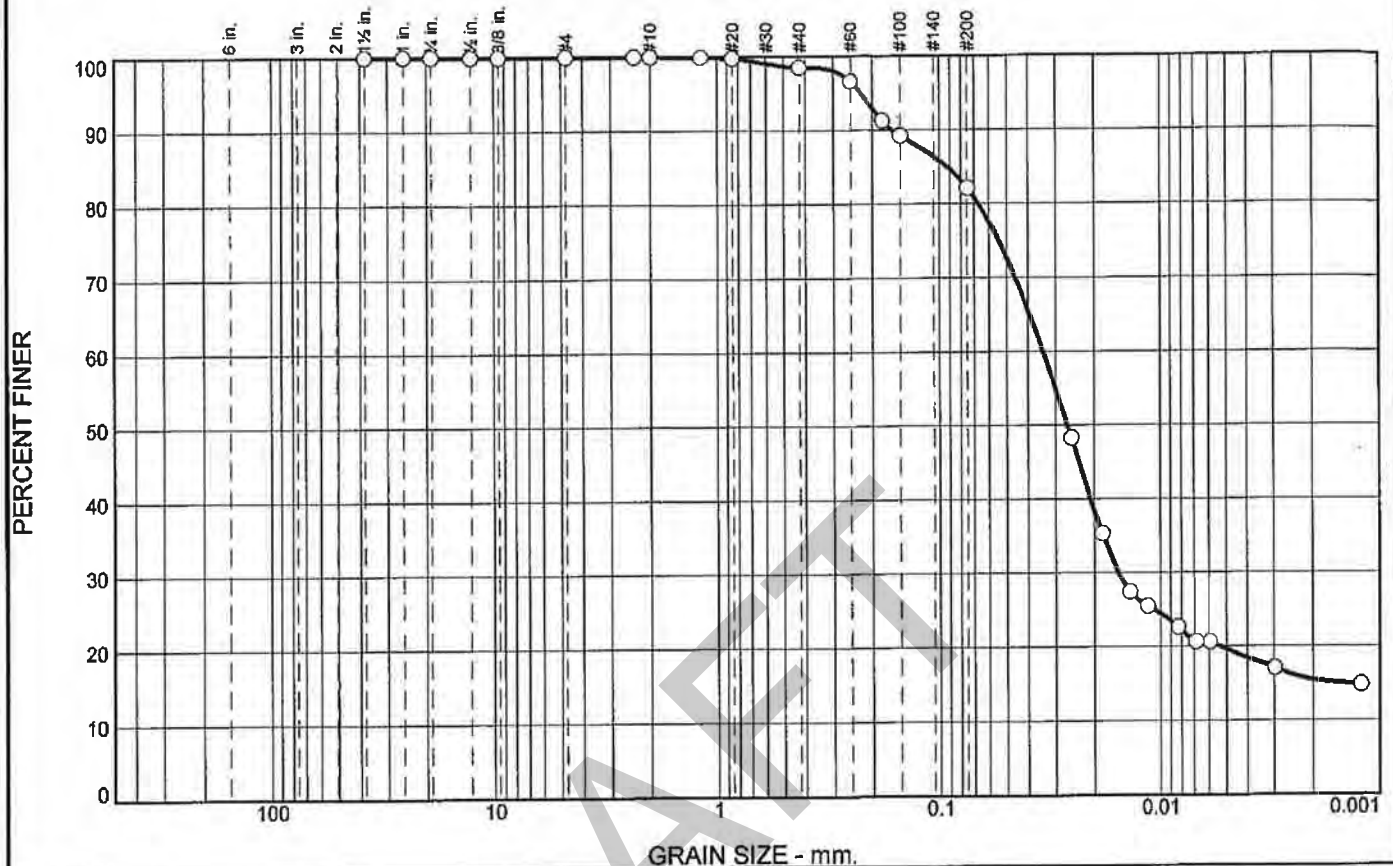
Project No: 126026

Figure

Tested By: JLH/BAY

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.5	16.4	62.5	19.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.9		
#20	99.8		
#40	98.5		
#60	96.6		
#80	91.3		
#100	89.2		
#200	82.1		

(no specification provided)

Material Description		
PL= 17.3	<u>Atterberg Limits</u> LL= 29.2	PI= 11.9
D ₉₀ = 0.1623	<u>Coefficients</u> D ₈₅ = 0.0923	D ₆₀ = 0.0344
D ₅₀ = 0.0267	D ₃₀ = 0.0156	D ₁₅ = 0.0015
D ₁₀ =	C _u =	C _c =
USCS= CL	<u>Classification</u> AASHTO= A-6(8)	
<u>Remarks</u> Specific Gravity Assumed F.M.=0.14		

Source of Sample: TB-5
Sample Number: S3

Depth: 7.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

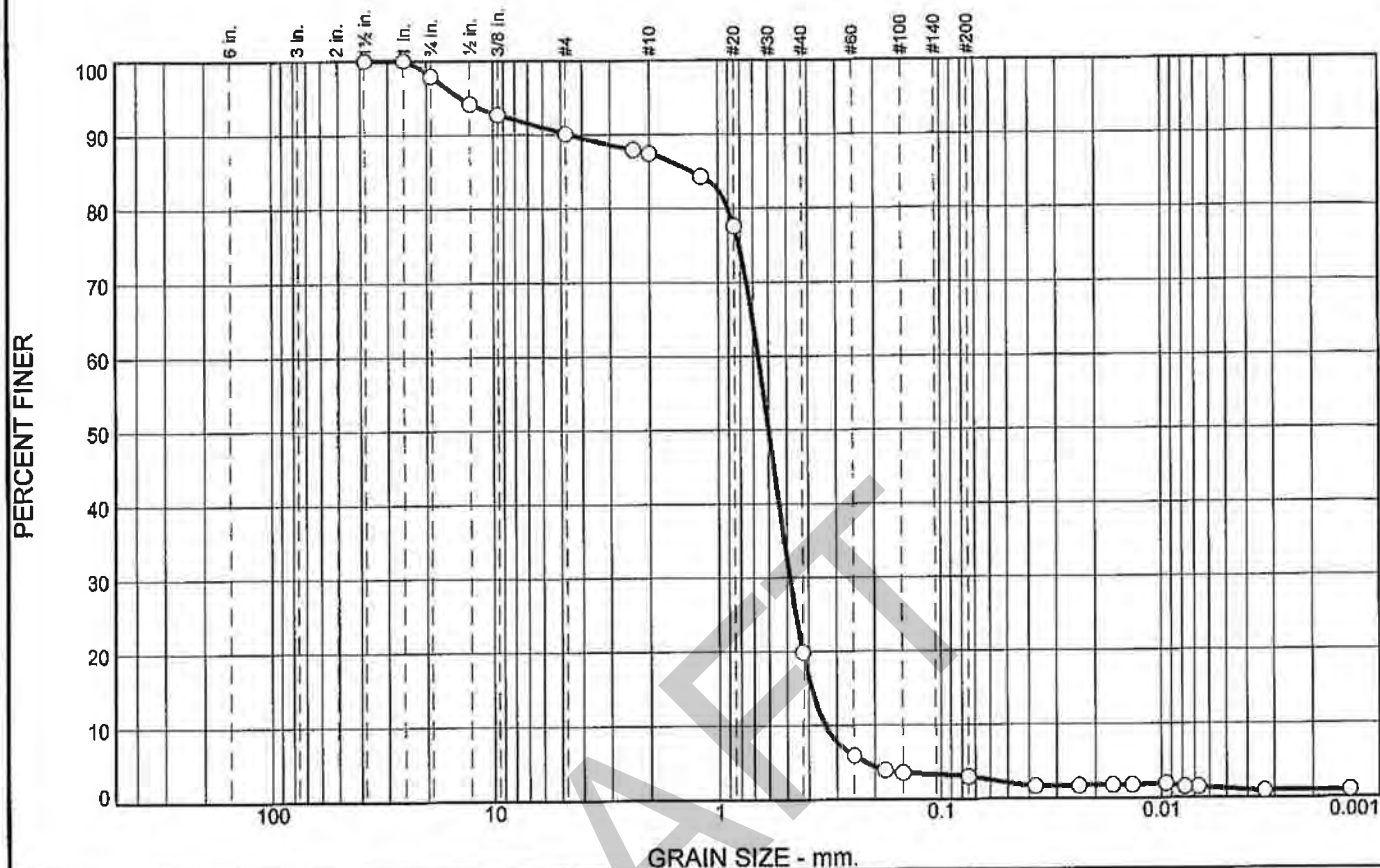
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	2.1	7.8	2.7	67.5	16.9	1.8	1.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	97.9		
1/2"	94.1		
3/8"	92.7		
#4	90.1		
#8	87.9		
#10	87.4		
#16	84.3		
#20	77.6		
#40	19.9		
#60	5.9		
#80	3.9		
#100	3.5		
#200	3.0		

(no specification provided)

Material Description

PL= **Atterberg Limits** PI=

LL=

Coefficients

D₉₀= 4.5656 D₈₅= 1.3036 D₆₀= 0.6676

D₅₀= 0.6005 D₃₀= 0.4855 D₁₅= 0.3890

D₁₀= 0.3380 C_u= 1.98 C_c= 1.04

Classification

USCS= SP AASHTO=

Remarks

Specific Gravity Assumed

F.M.=2.86

Source of Sample: TB-5
Sample Number: S5

Depth: 17.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

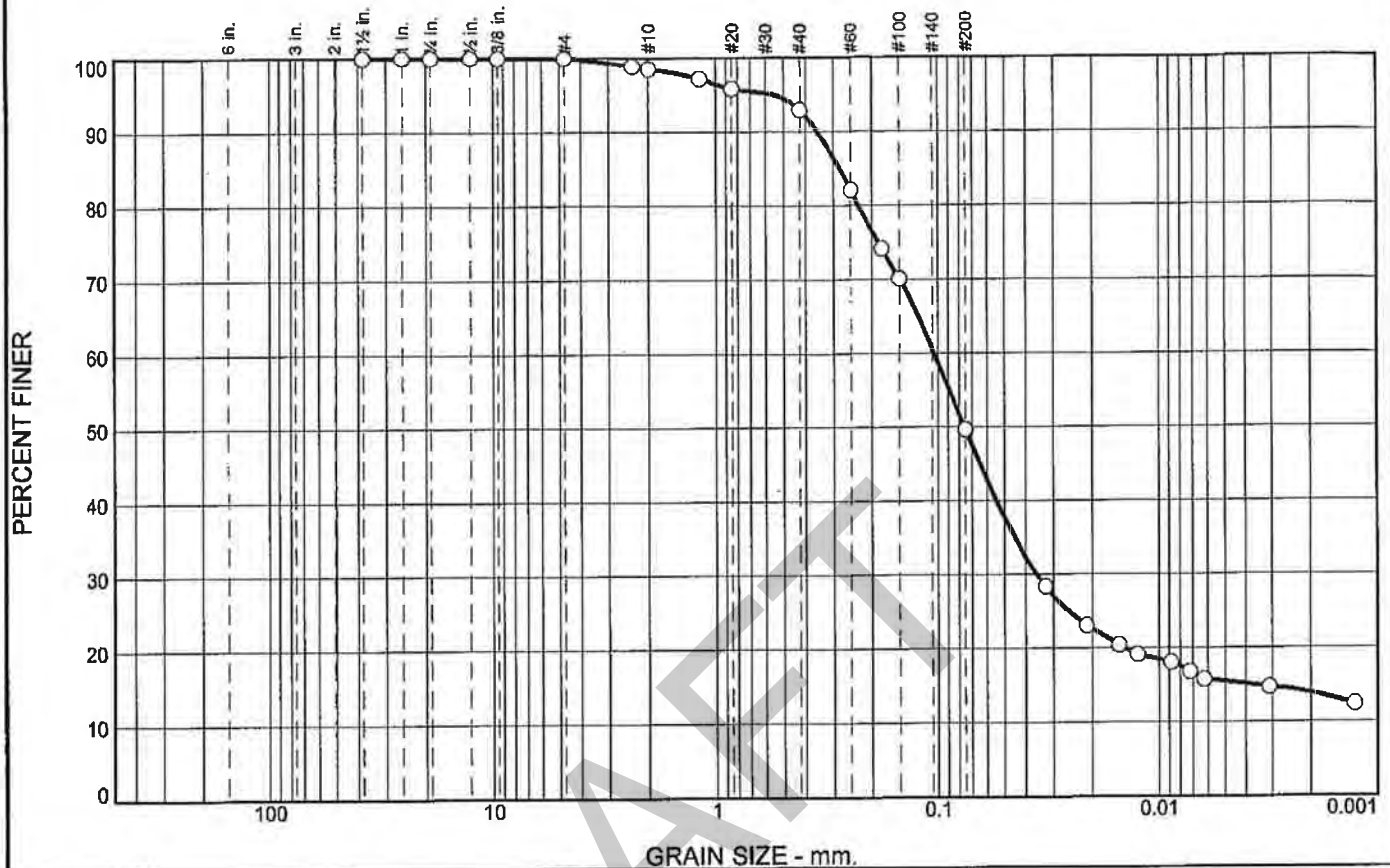
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.4	5.6	43.3	34.1	15.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	99.9		
#8	98.9		
#10	98.5		
#16	97.1		
#20	95.8		
#40	92.9		
#60	82.0		
#80	74.2		
#100	70.1		
#200	49.6		

(no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 0.3550 D₈₅= 0.2825 D₆₀= 0.1043

D₅₀= 0.0759 D₃₀= 0.0359 D₁₅= 0.0037

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=0.52

Source of Sample: TB-5
Sample Number: S6

Depth: 22.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

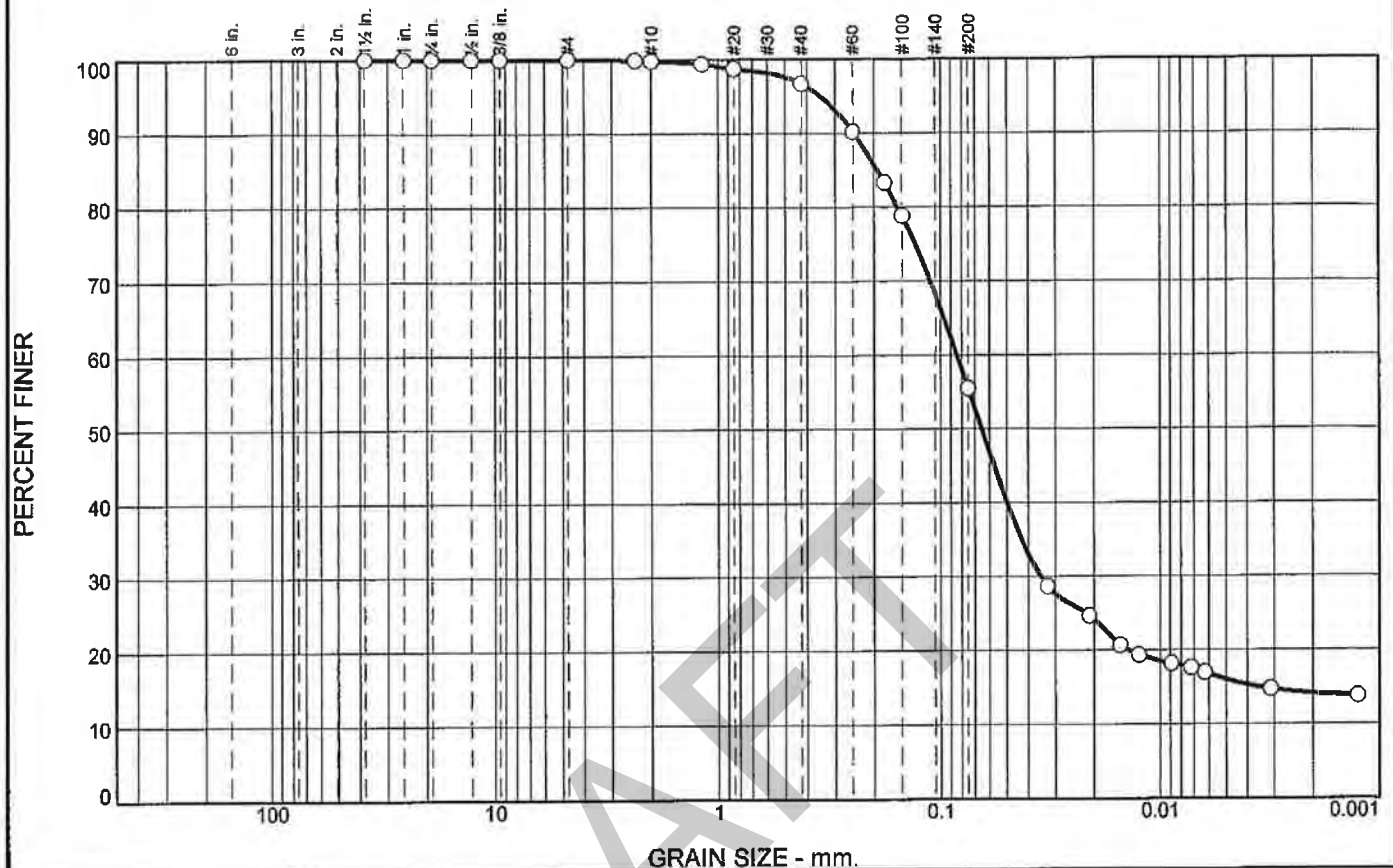
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	3.1	41.2	39.5	16.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.9		
#10	99.8		
#16	99.4		
#20	98.8		
#40	96.7		
#60	90.2		
#80	83.3		
#100	78.8		
#200	55.5		

(no specification provided)

Material Description		
PL=	<u>Atterberg Limits</u> LL=	PI=
D ₉₀ = 0.2470	<u>Coefficients</u> D ₈₅ = 0.1938	D ₆₀ = 0.0843
D ₅₀ = 0.0652	D ₃₀ = 0.0352	D ₁₅ = 0.0036
D ₁₀ =	C _u =	C _c =
USCS=	<u>Classification</u> AASHTO=	
<u>Remarks</u>		
Specific Gravity Assumed F.M.=0.31		

Source of Sample: TB-5
Sample Number: S7

Depth: 27.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

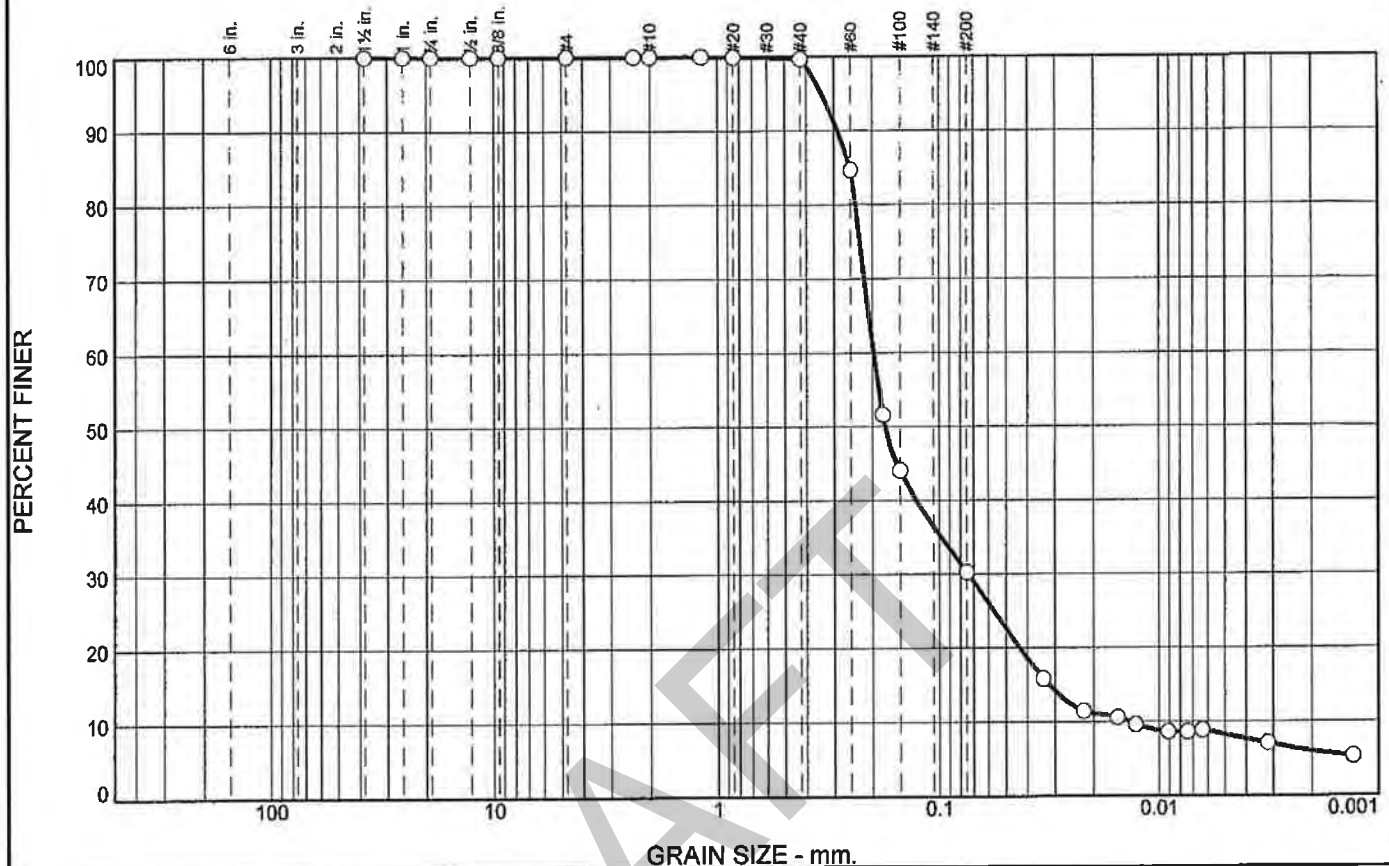
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	69.4	22.1	8.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#40	99.7		
#60	84.6		
#80	51.7		
#100	44.0		
#200	30.3		

(no specification provided)

Material Description		
PL= NP	Atterberg Limits LL= 14.1	PI= NP
D ₉₀ = 0.2887	Coefficients D ₈₅ = 0.2523	D ₆₀ = 0.1979
D ₅₀ = 0.1753	D ₃₀ = 0.0739	D ₁₅ = 0.0320
D ₁₀ = 0.0136	C _u = 14.50	C _c = 2.03
USCS= SM	Classification AASHTO= A-2-4(0)	
Remarks Specific Gravity Assumed F.M.=0.65		

Source of Sample: TB-6 Depth: 4
Sample Number: S2

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

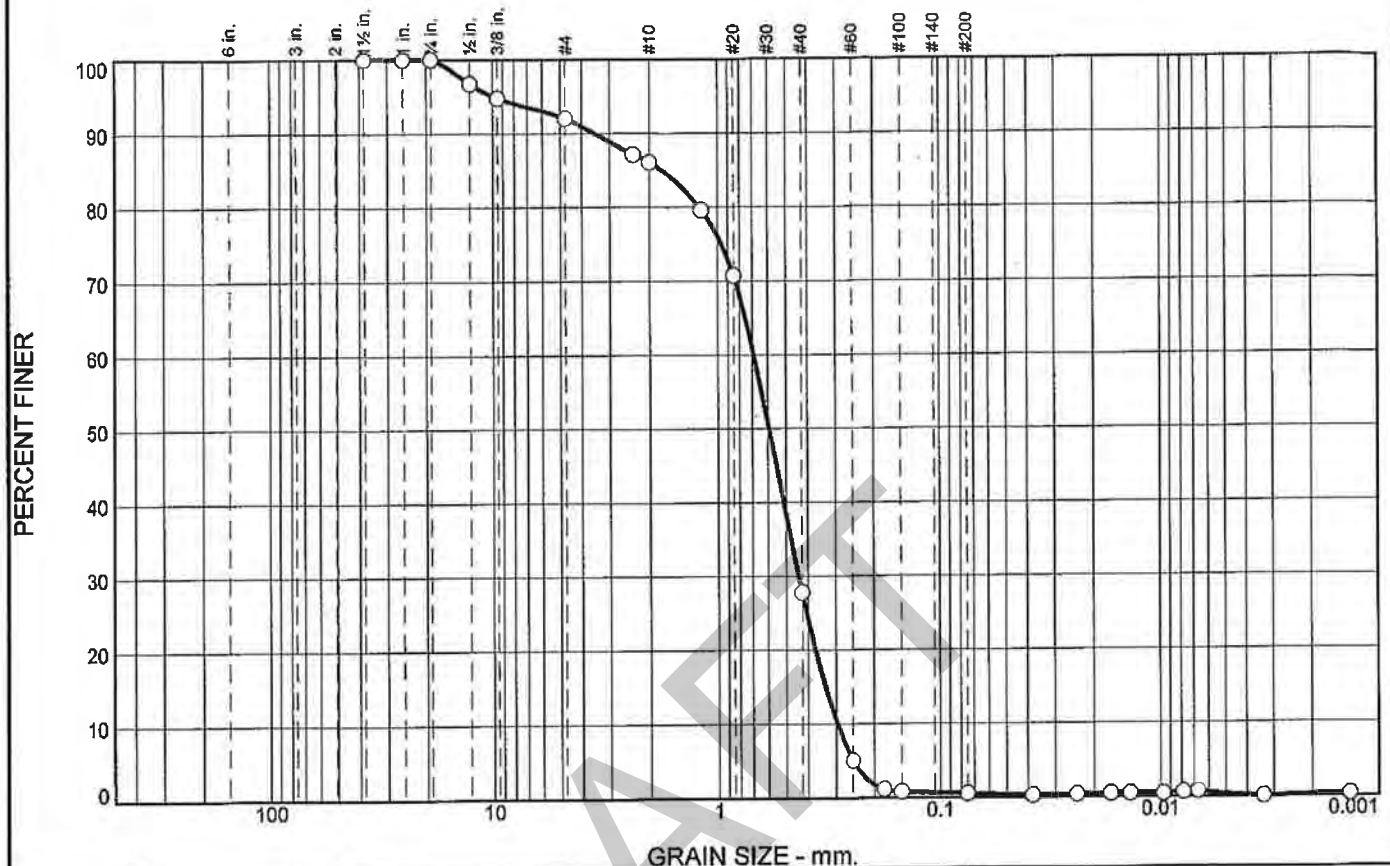
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	8.0	5.9	58.3	27.2	0.3	0.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	96.7		
3/8"	94.8		
#4	92.0		
#8	87.1		
#10	86.1		
#16	79.6		
#20	70.8		
#40	27.8		
#60	5.0		
#80	1.2		
#100	0.9		
#200	0.6		

(no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 3.5129 D₈₅= 1.7580 D₆₀= 0.6907

D₅₀= 0.5918 D₃₀= 0.4401 D₁₅= 0.3345

D₁₀= 0.2959 C_u= 2.33 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Specific Gravity Assumed

F.M.=2.84

Source of Sample: TB-6
Sample Number: S4

Depth: 12.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8842 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

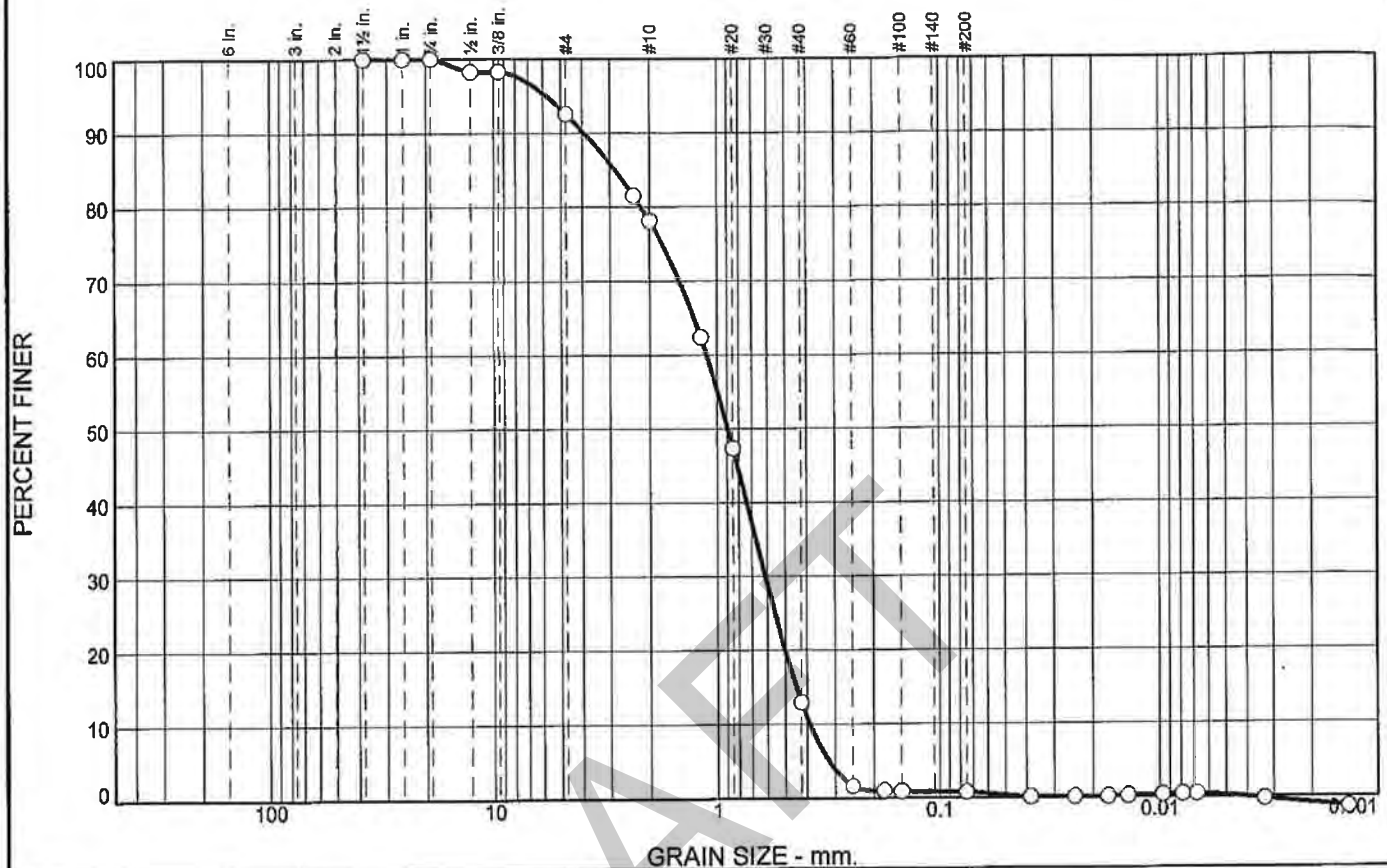
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: ZGT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	7.4	14.5	65.1	12.2	0.6	0.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	98.3		
3/8"	98.3		
#4	92.6		
#8	81.5		
#10	78.1		
#16	62.4		
#20	47.4		
#40	13.0		
#60	1.7		
#80	1.0		
#100	0.9		
#200	0.8		

(no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 3.9360 D₈₅= 2.8634 D₆₀= 1.1133

D₅₀= 0.8953 D₃₀= 0.6128 D₁₅= 0.4478

D₁₀= 0.3900 C_u= 2.85 C_c= 0.86

Classification

USCS= SP AASHTO=

Remarks

Specific Gravity Assumed

F.M.=3.32

Source of Sample: TB-6
Sample Number: S5

Depth: 17.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-5542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

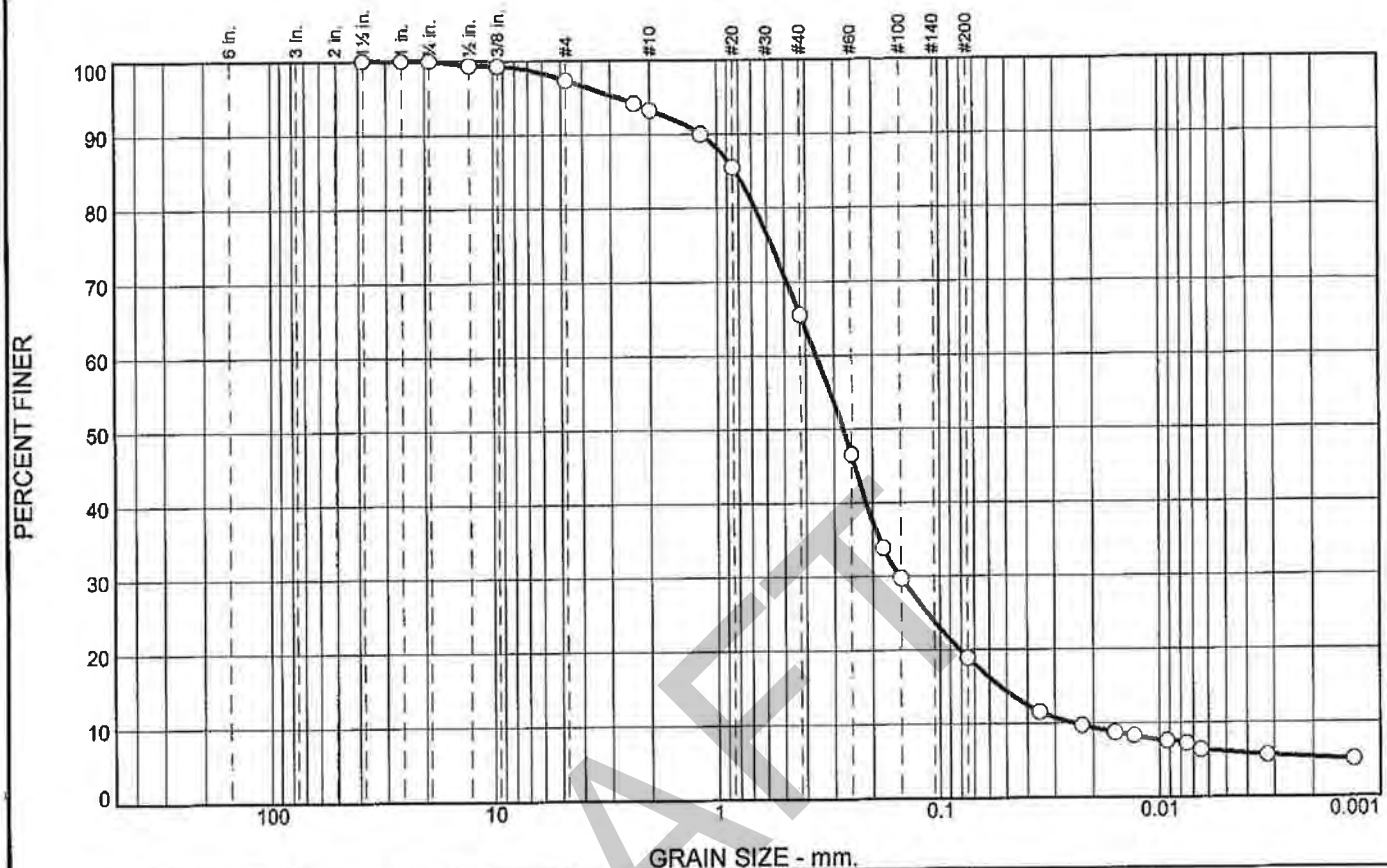
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.6	4.2	27.7	46.6	12.8	6.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	99.3		
3/8"	99.3		
#4	97.4		
#8	94.1		
#10	93.2		
#16	90.0		
#20	85.5		
#40	65.5		
#60	46.6		
#80	33.9		
#100	29.8		
#200	18.9		

* (no specification provided)

Material Description

PL= **Atterberg Limits** PI=

LL=

Coefficients

D₉₀= 1.1805 D₈₅= 0.8284 D₆₀= 0.3607

D₅₀= 0.2726 D₃₀= 0.1517 D₁₅= 0.0534

D₁₀= 0.0246 C_u= 14.64 C_c= 2.59

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=1.59

Source of Sample: TB-6
Sample Number: S6

Depth: 22.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-6642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

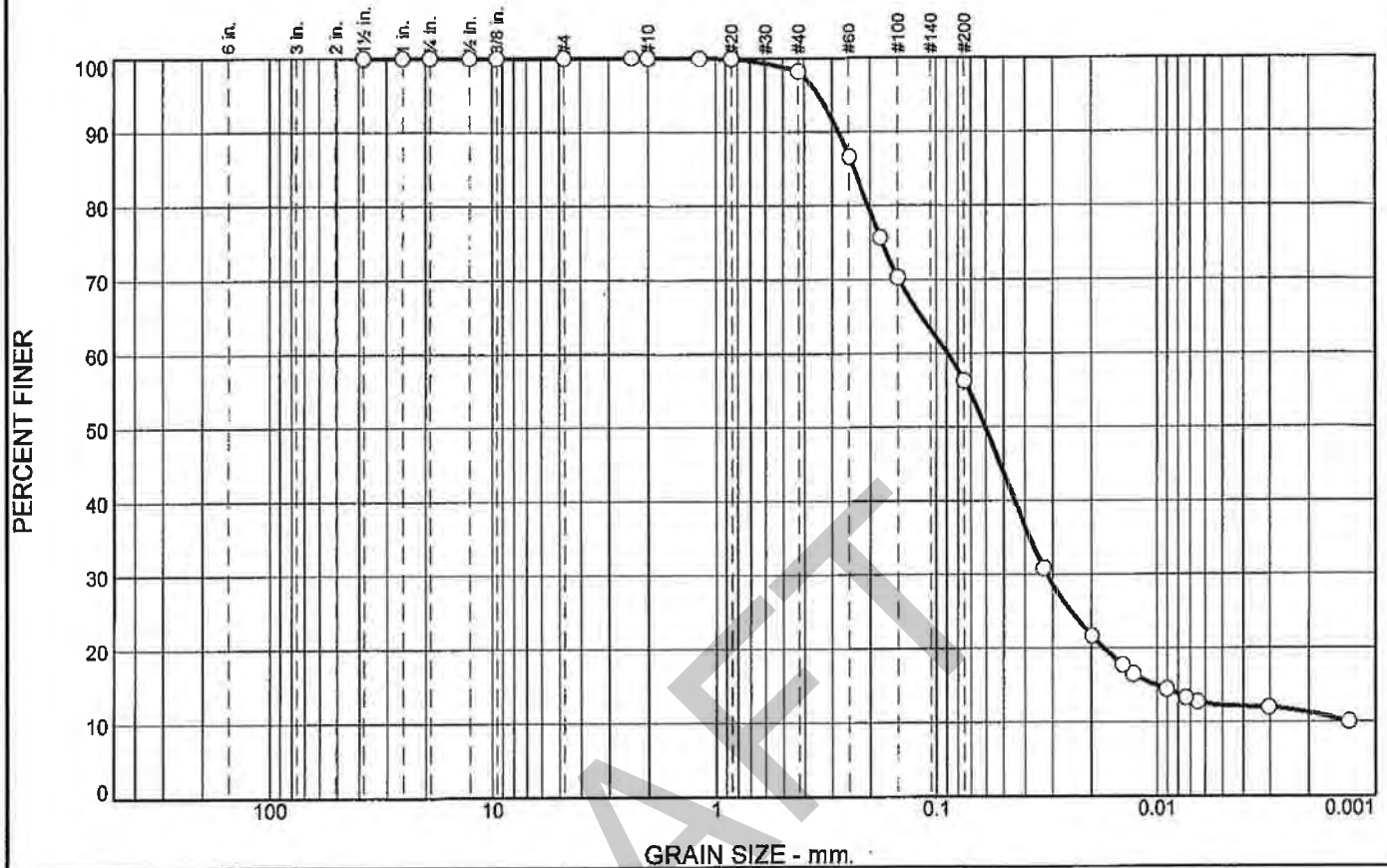
Project No: 126026

Figure

Tested By: JLH/JLW

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.9	41.8	44.1	12.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	99.9		
#40	98.1		
#60	86.7		
#80	75.7		
#100	70.3		
#200	56.3		

* (no specification provided)

Material Description

PL= 13.6 **Atterberg Limits** LL= 24.6 PI= 11.0

Coefficients
 D₉₀= 0.2804 D₈₅= 0.2373 D₆₀= 0.0889
 D₅₀= 0.0603 D₃₀= 0.0320 D₁₅= 0.0101
 D₁₀= 0.0013 C_u= 67.22 C_c= 8.69

Classification
 USCS= AASHTO= A-6(3)

Remarks
 Specific Gravity Assumed
 F.M.=0.39

Source of Sample: TB-7 Depth: 2.5
 Sample Number: U1

Date: 4/13/12

GSI Geotechnical Services, Inc.
 10807 Aurora Ave. Urbandale, IA 50322
 (515) 270-8842 FAX (515) 270-1811

Client: HDR Engineering, Inc.
 Project: Taft Speedway Levee

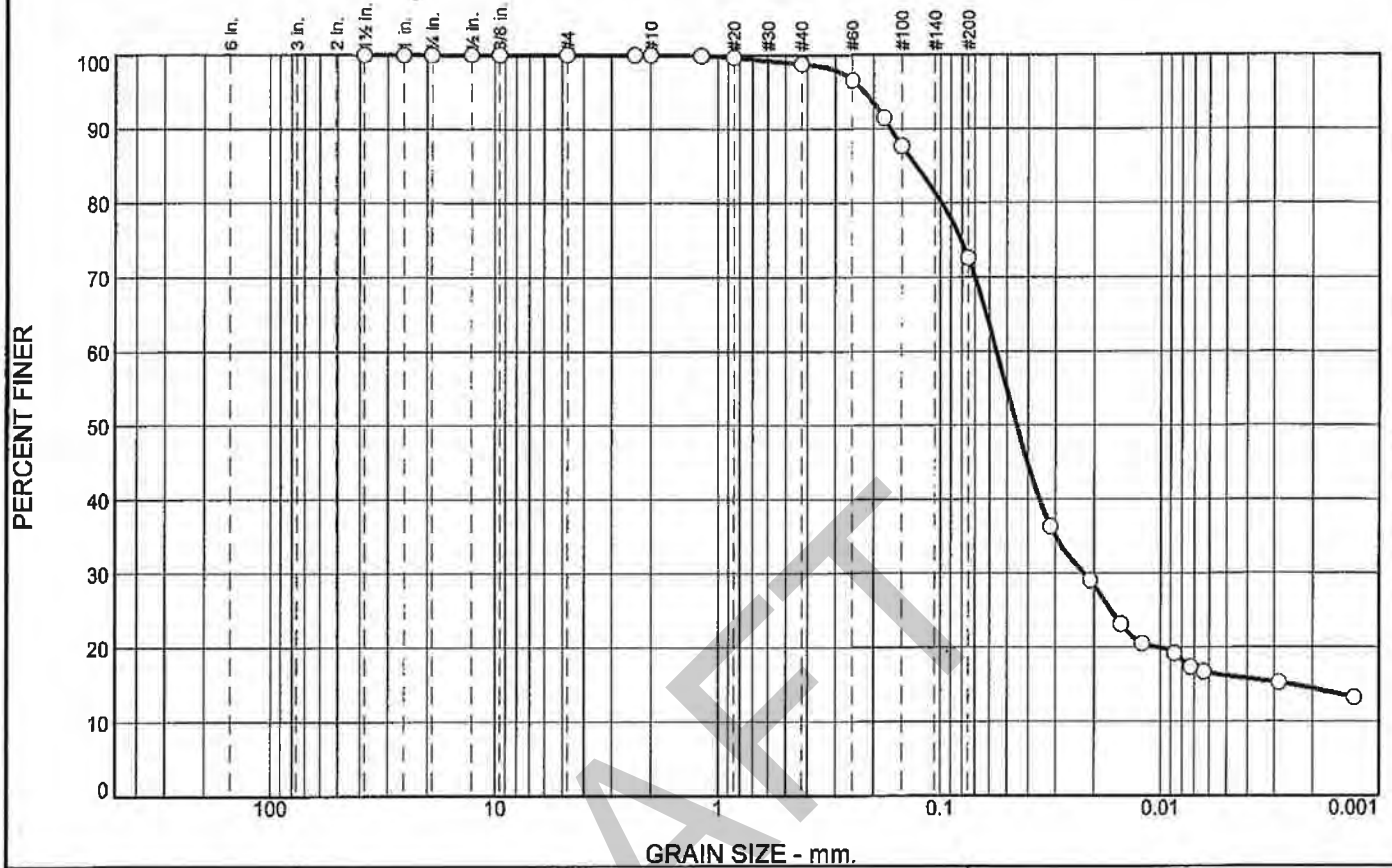
Project No: 126026

Figure

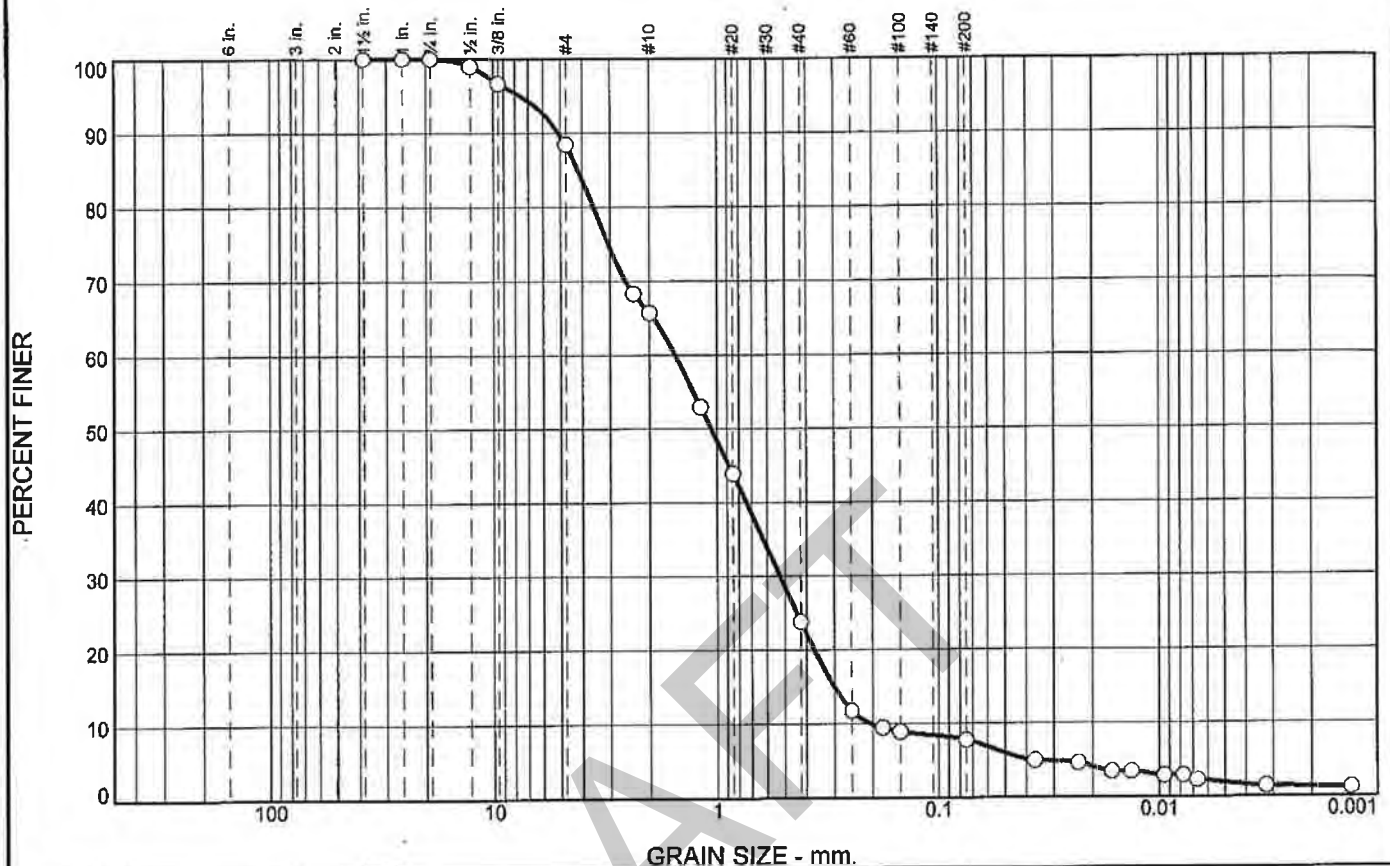
Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.6	22.7	41.9	16.1	5.8	1.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	99.0		
3/8"	96.7		
#4	88.4		
#8	68.3		
#10	65.7		
#16	52.9		
#20	43.9		
#40	23.8		
#60	11.8		
#80	9.5		
#100	8.9		
#200	7.7		

(no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 5.1002 D₈₅= 4.1825 D₆₀= 1.5330

D₅₀= 1.0601 D₃₀= 0.5259 D₁₅= 0.3011

D₁₀= 0.2041 C_u= 7.51 C_c= 0.88

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=3.36

Source of Sample: TB-7
Sample Number: SS

Depth: 17.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

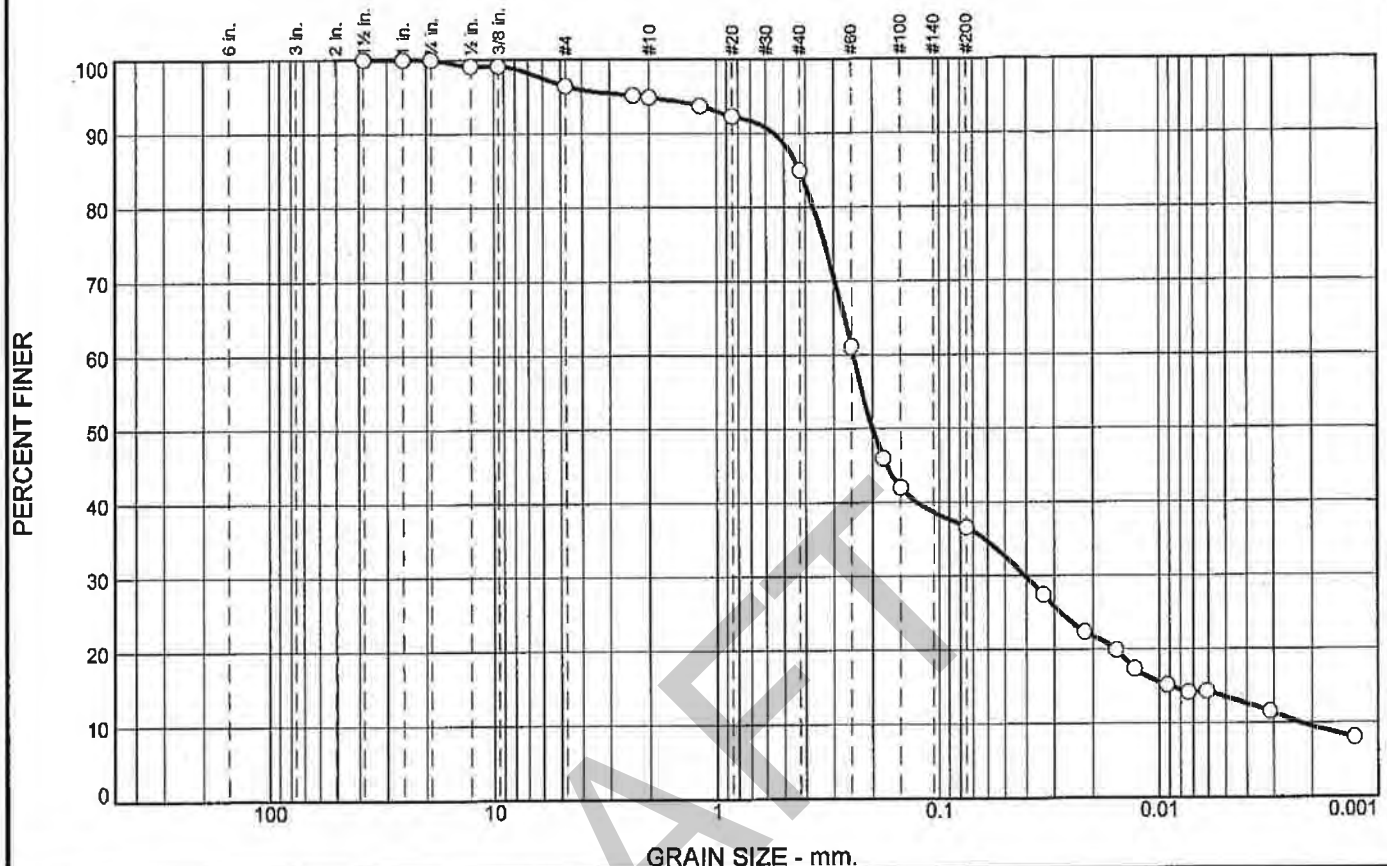
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.6	1.5	10.0	48.3	23.2	13.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	99.2		
3/8"	99.2		
#4	96.4		
#8	95.2		
#10	94.9		
#16	93.7		
#20	92.3		
#40	84.9		
#60	61.1		
#80	46.0		
#100	42.0		
#200	36.6		

(no specification provided)

Material Description

PL= **Atterberg Limits** PI=

LL=

Coefficients

D₉₀= 0.5521 D₈₅= 0.4269 D₆₀= 0.2448

D₅₀= 0.2000 D₃₀= 0.0409 D₁₅= 0.0089

D₁₀= 0.0023 C_u= 106.91 C_c= 2.98

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=1.12

Source of Sample: TB-7
Sample Number: S7

Depth: 27.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

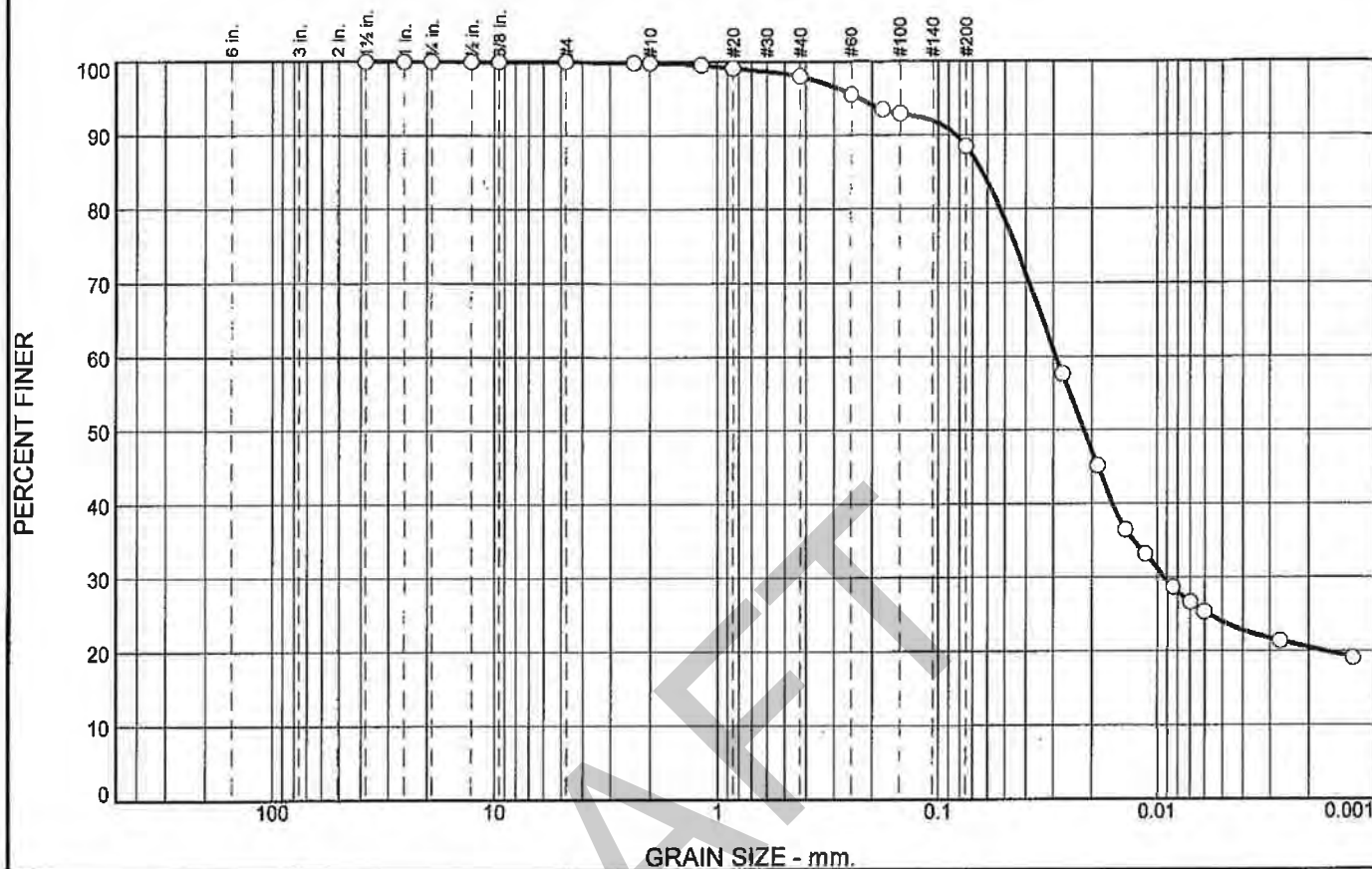
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	1.8	9.5	64.6	23.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.8		
#10	99.8		
#16	99.6		
#20	99.1		
#40	98.0		
#60	95.5		
#80	93.5		
#100	92.9		
#200	88.5		

* (no specification provided)

Material Description

Atterberg Limits
 PL= 14.8 LL= 36.1 PI= 21.3
Coefficients
 D₉₀= 0.0835 D₈₅= 0.0632 D₆₀= 0.0293
 D₅₀= 0.0218 D₃₀= 0.0093 D₁₅=
 D₁₀= C_u= C_c=
Classification
 USCS= CL AASHTO= A-6(18)
Remarks
 Specific Gravity Assumed
 F.M.=0.12

Source of Sample: TB-8 Depth: 4
Sample Number: U2

Date: 4/10/12

GSI Geotechnical Services, Inc.
 10507 Aurora Ave. Urbandale, IA 50322
 (515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
 Project: Taft Speedway Levee

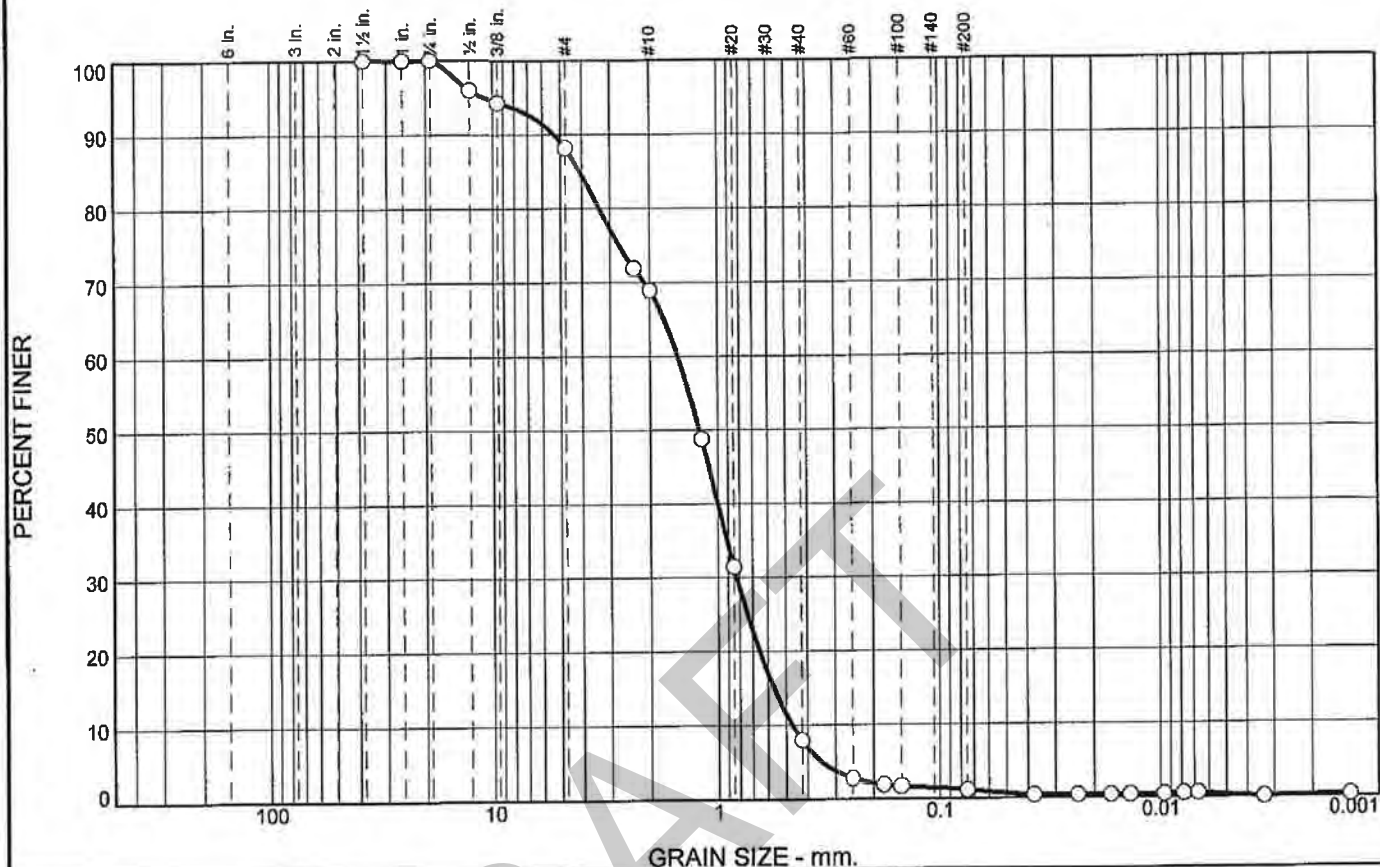
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.8	19.2	61.1	6.8	0.8	0.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	95.9		
3/8"	94.3		
#4	88.2		
#8	71.9		
#10	69.0		
#16	48.8		
#20	31.5		
#40	7.9		
#60	2.8		
#80	1.9		
#100	1.7		
#200	1.1		

(no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 5.3181 D₈₅= 4.0918 D₆₀= 1.5018

D₅₀= 1.2080 D₃₀= 0.8246 D₁₅= 0.5652

D₁₀= 0.4698 C_u= 3.20 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Specific Gravity Assumed

F.M.=3.74

Source of Sample: TB-8
Sample Number: S5

Depth: 17.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

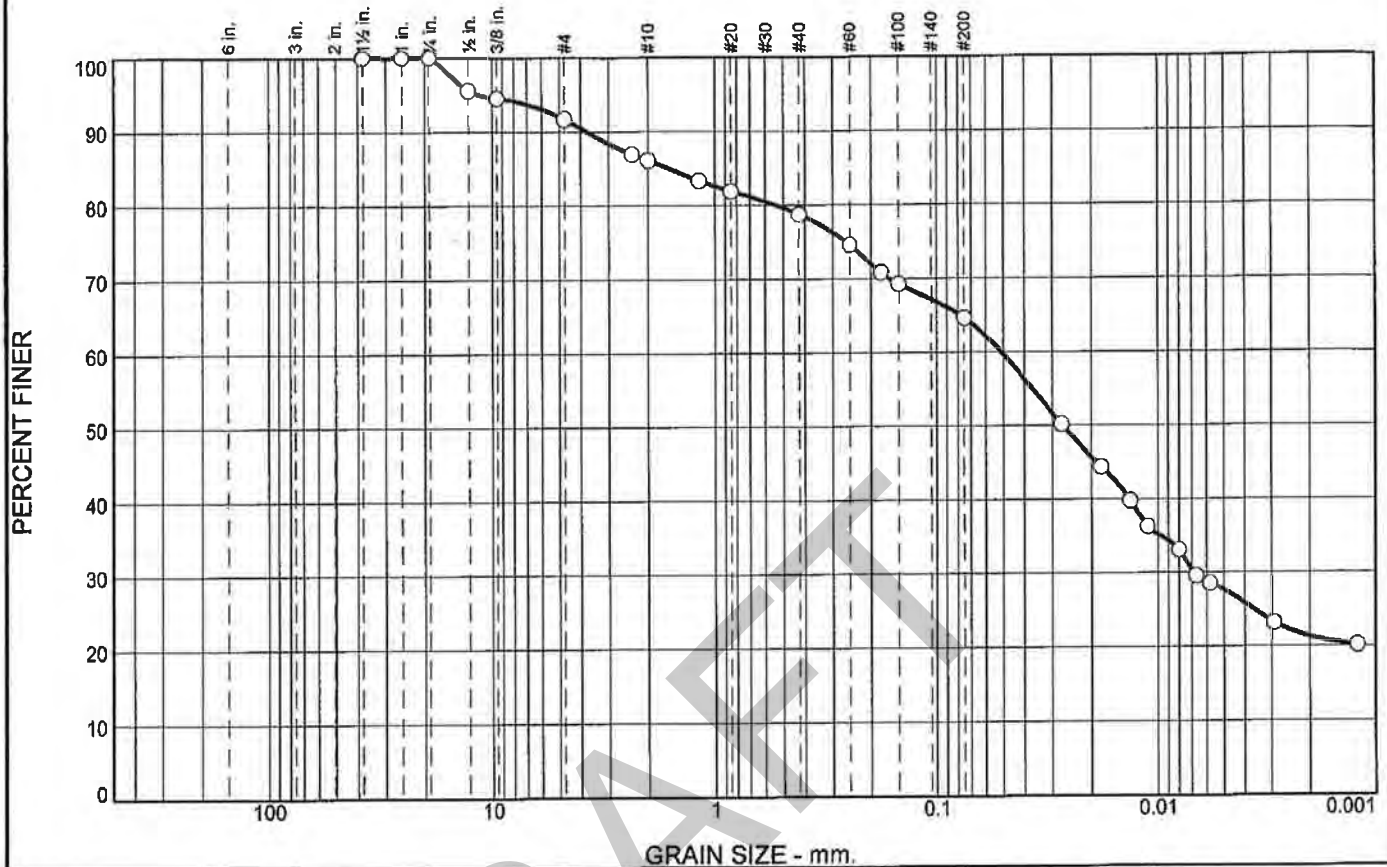
Project No: 126026

Figure

Tested By: JLH/JLW

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	8.3	5.6	7.3	14.2	37.0	27.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	95.5		
3/8"	94.6		
#4	91.7		
#8	86.8		
#10	86.1		
#16	83.3		
#20	81.9		
#40	78.8		
#60	74.5		
#80	70.9		
#100	69.3		
#200	64.6		

* (no specification provided)

Material Description		
PL=	<u>Atterberg Limits</u> LL=	PI=
D ₉₀ = 3.7561	<u>Coefficients</u> D ₈₅ = 1.6178	D ₆₀ = 0.0513
D ₅₀ = 0.0270	D ₃₀ = 0.0069	D ₁₅ =
D ₁₀ =	C _u =	C _c =
USCS=	<u>Classification</u> AASHTO=	
<u>Remarks</u>		
Specific Gravity Assumed F.M.=1.17		

Source of Sample: TB-8
Sample Number: S7

Depth: 27.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(516) 270-6542 FAX (516) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

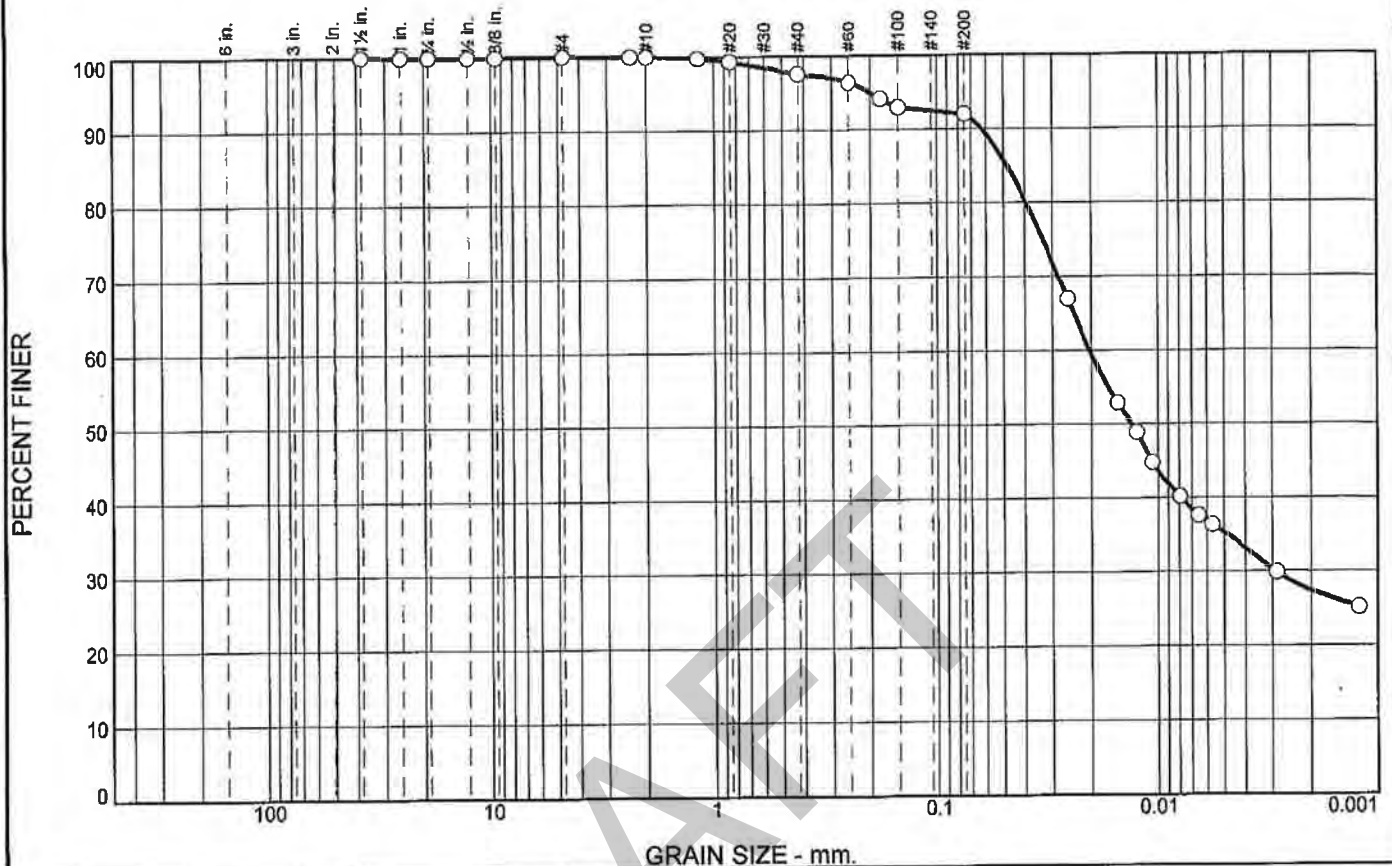
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.4	5.6	56.7	35.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.7		
#20	99.3		
#40	97.6		
#60	96.4		
#80	94.2		
#100	92.9		
#200	92.0		

(no specification provided)

Material Description

PL= 21.2

Atterberg Limits

LL= 49.6

PI= 28.4

Coefficients

D₉₀= 0.0626

D₈₅= 0.0483

D₆₀= 0.0205

D₅₀= 0.0131

D₃₀= 0.0029

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= CH

AASHTO= A-7-6(29)

Remarks

Specific Gravity Assumed

F.M.=0.12

Source of Sample: TB-9
Sample Number: U2

Depth: 4

Date: 4/10/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.

Project: Taft Speedway Levee

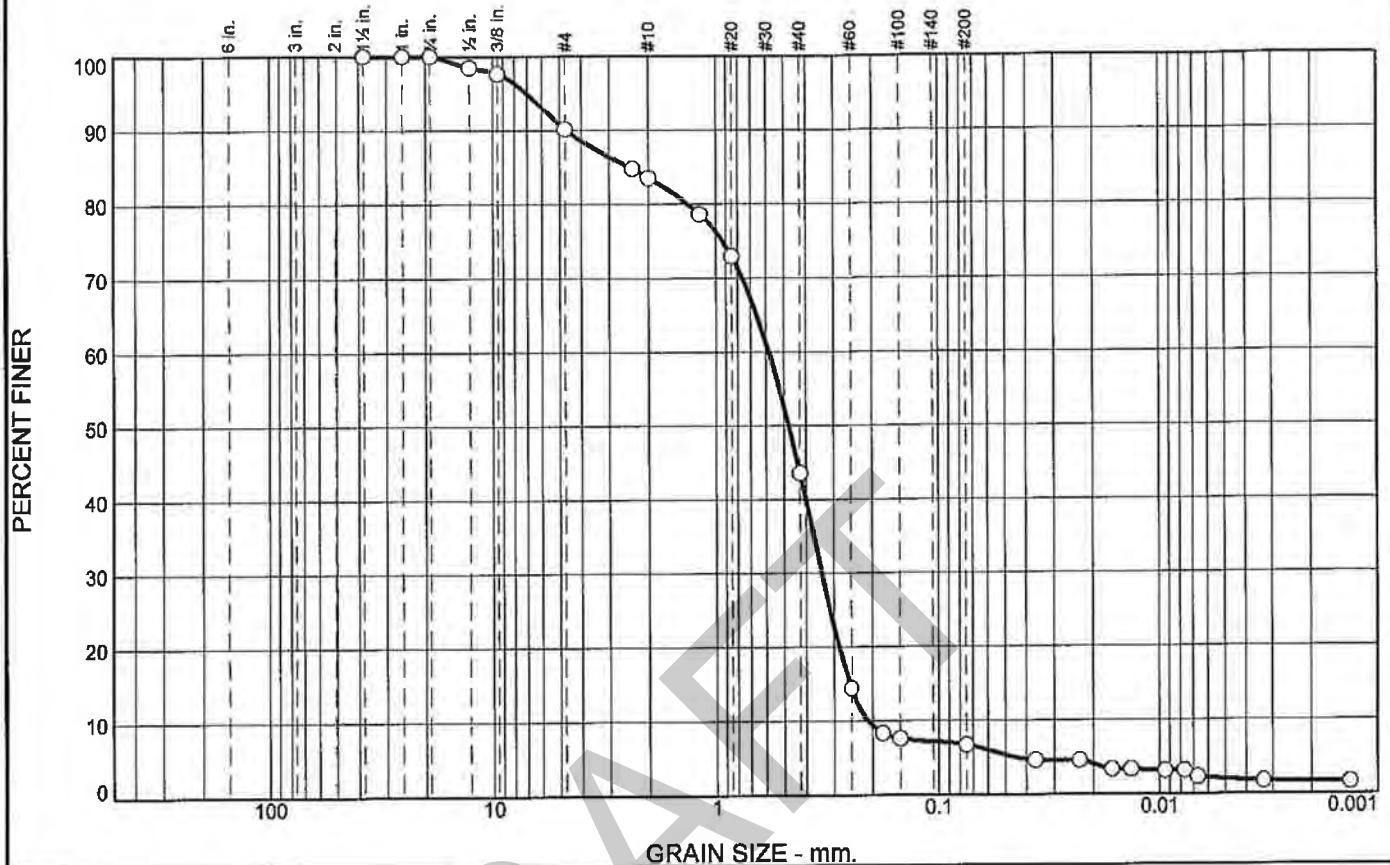
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	9.8	6.7	39.9	36.9	4.7	2.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	98.4		
3/8"	97.7		
#4	90.2		
#8	84.7		
#10	83.5		
#16	78.6		
#20	73.0		
#40	43.6		
#60	14.4		
#80	8.4		
#100	7.6		
#200	6.7		

(no specification provided)

Material Description

PL= **Atterberg Limits** LL= PI=

Coefficients

D₉₀= 4.6535 D₈₅= 2.4504 D₆₀= 0.5833
D₅₀= 0.4760 D₃₀= 0.3404 D₁₅= 0.2542
D₁₀= 0.2095 C_u= 2.78 C_c= 0.95

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed
F.M.=2.57

Source of Sample: TB-9
Sample Number: S5

Depth: 12.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

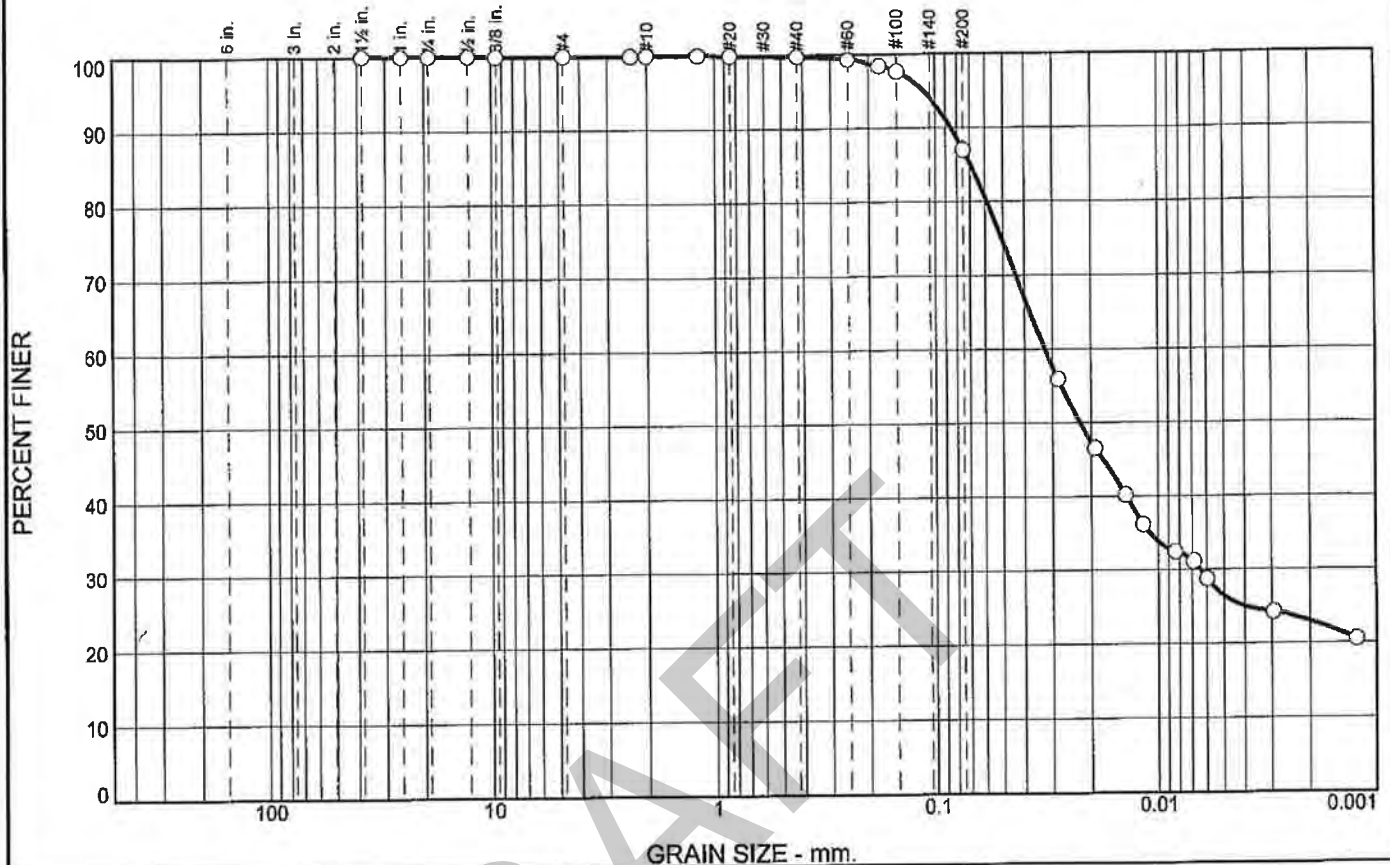
Project No: 126026

Figure

Tested By: JLH/JLW

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	12.7	60.6	26.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	99.9		
#40	99.7		
#60	99.3		
#80	98.3		
#100	97.5		
#200	87.0		

* (no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 0.0850 D₈₅= 0.0695 D₆₀= 0.0325

D₅₀= 0.0226 D₃₀= 0.0064 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=0.03

Source of Sample: TB-9
Sample Number: S7

Depth: 22.5

Date: 3/12/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8642 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

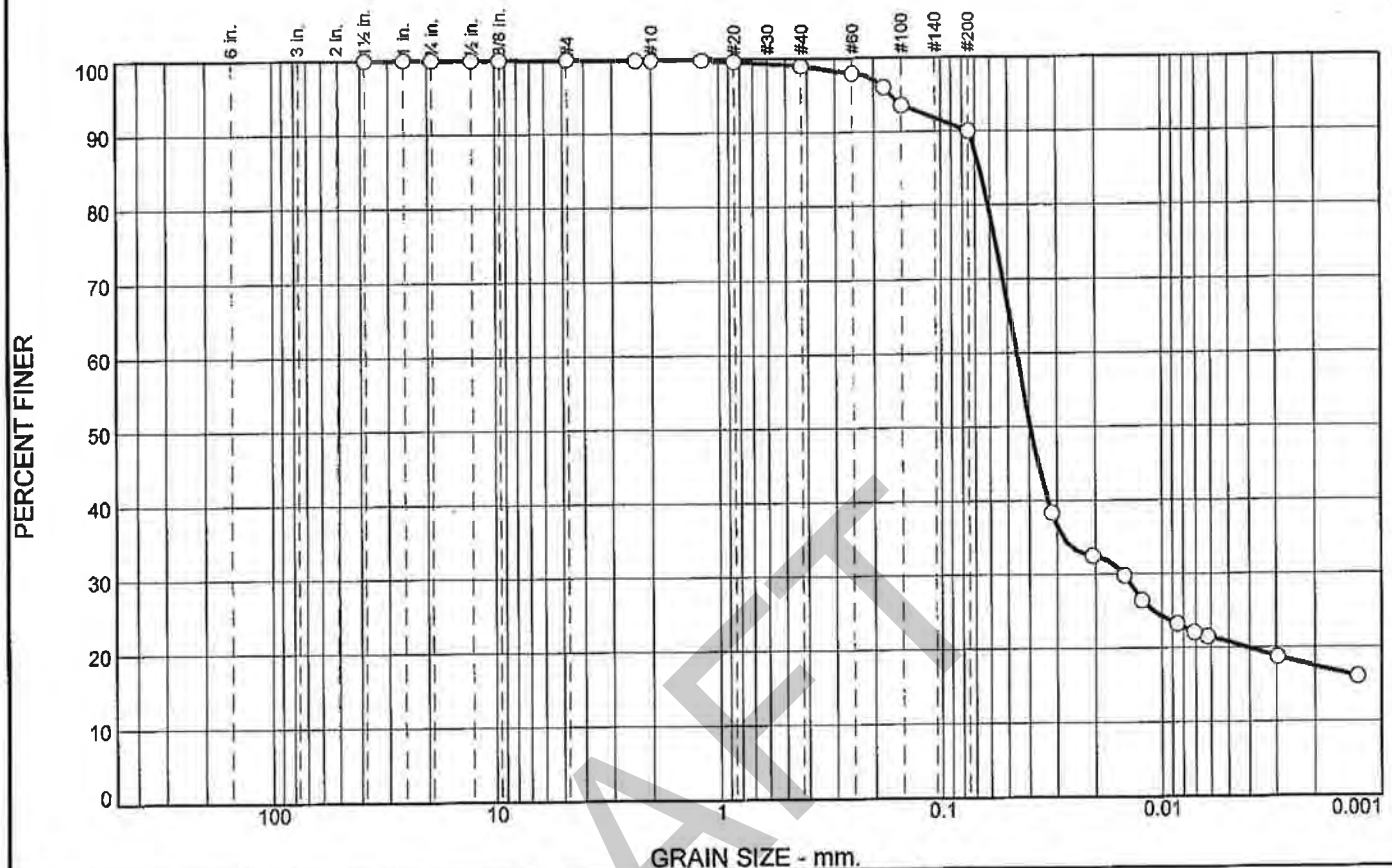
Project No: 126026

Figure

Tested By: JLW/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	0.9	8.9	69.2	20.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.8		
#10	99.8		
#16	99.8		
#20	99.6		
#40	98.9		
#60	97.8		
#80	96.0		
#100	93.6		
#200	90.0		

(no specification provided)

<u>Material Description</u>		
<u>Atterberg Limits</u>		
PL= 18.8	LL= 38.4	PI= 19.6
<u>Coefficients</u>		
D ₉₀ = 0.0749	D ₈₅ = 0.0667	D ₆₀ = 0.0458
D ₅₀ = 0.0396	D ₃₀ = 0.0150	D ₁₅ =
D ₁₀ =	C _u =	C _c =
<u>Classification</u>		
USCS= CL	AASHTO= A-6(17)	
<u>Remarks</u>		
Specific Gravity Assumed		
F.M.=0.09		

Source of Sample: TB-10
Sample Number: U1

Depth: 2.5

Date: 4/10/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

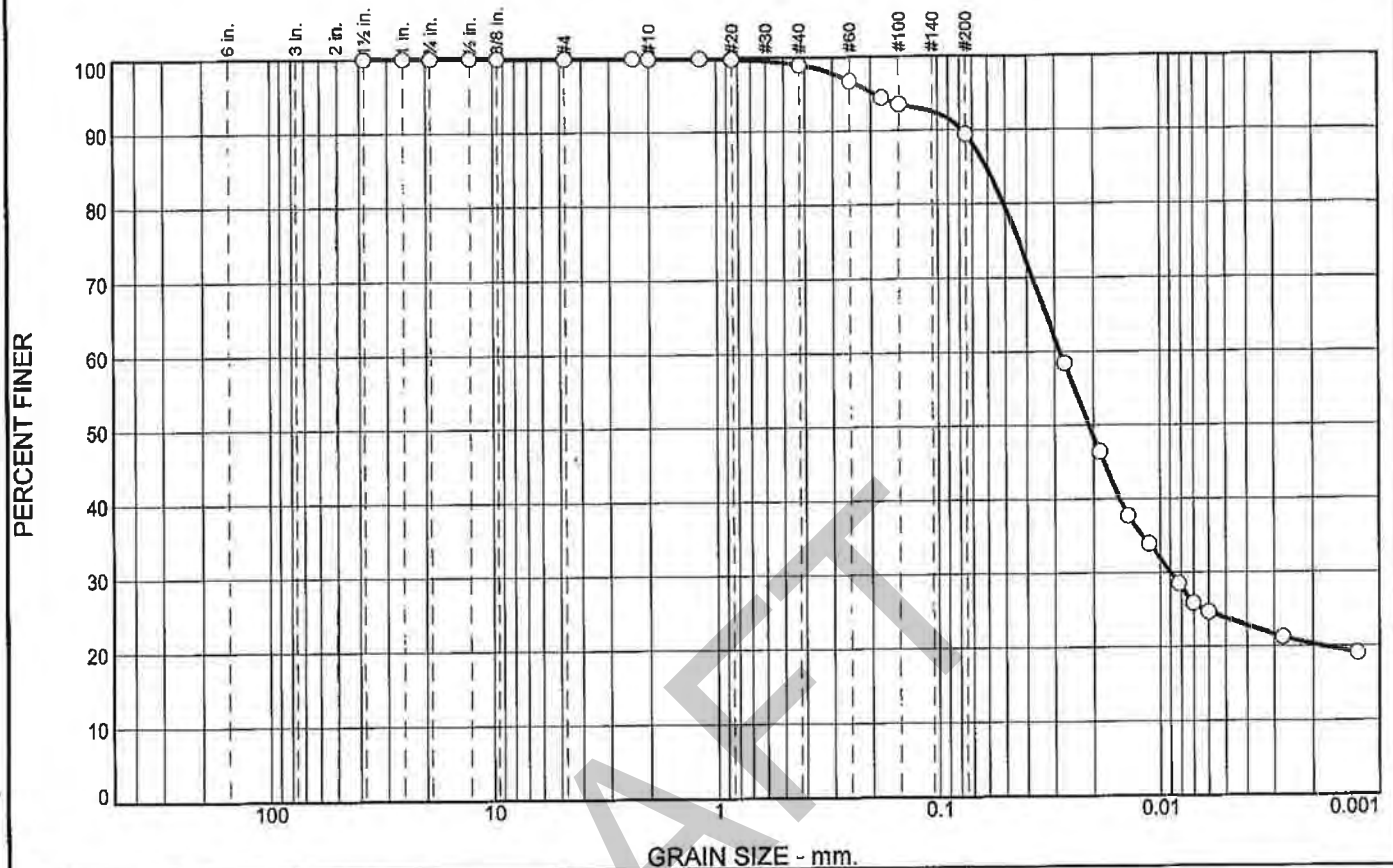
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.0	0.9	9.6	65.6	23.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	99.9		
#8	99.9		
#10	99.9		
#16	99.9		
#20	99.8		
#40	99.0		
#60	96.7		
#80	94.5		
#100	93.5		
#200	89.4		

* (no specification provided)

<u>Material Description</u>		
<u>Atterberg Limits</u>		
PL= 16.3	LL= 34.4	PI= 18.1
<u>Coefficients</u>		
D ₉₀ = 0.0779	D ₈₅ = 0.0607	D ₆₀ = 0.0285
D ₅₀ = 0.0211	D ₃₀ = 0.0089	D ₁₅ =
D ₁₀ =	C _u =	C _c =
<u>Classification</u>		
USCS= CL	AASHTO= A-6(15)	
<u>Remarks</u>		
Specific Gravity Assumed		
F.M.=0.09		

Source of Sample: TB-10
Sample Number: U2

Depth: 7.5

Date: 4/10/11

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

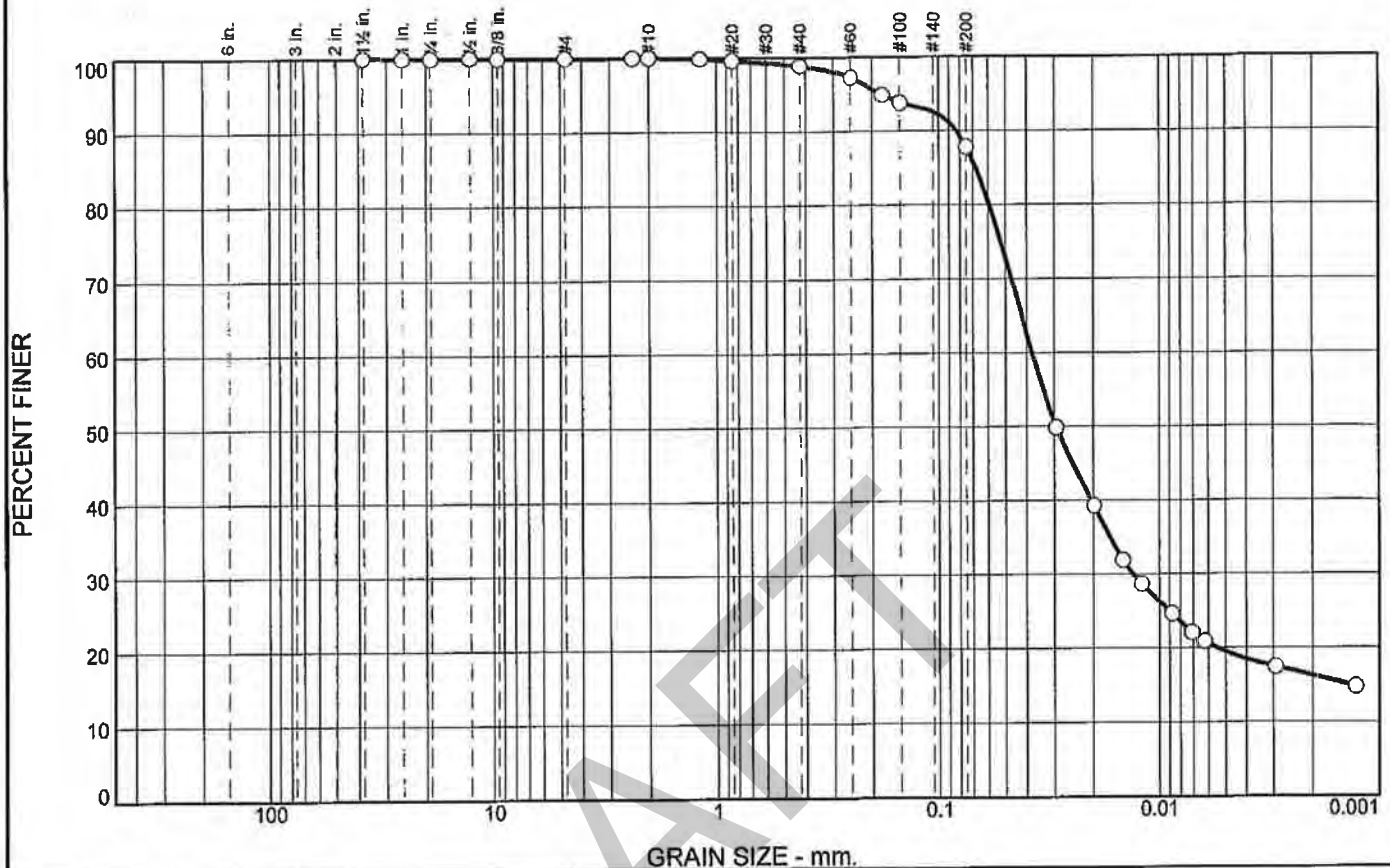
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.2	10.9	68.4	19.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.8		
#20	99.6		
#40	98.8		
#60	97.1		
#80	94.8		
#100	93.8		
#200	87.9		

(no specification provided)

<u>Material Description</u>		
<u>Atterberg Limits</u>		
PL= 20.8	LL= 37.7	PI= 16.9
<u>Coefficients</u>		
D ₉₀ = 0.0831	D ₈₅ = 0.0679	D ₆₀ = 0.0379
D ₅₀ = 0.0296	D ₃₀ = 0.0132	D ₁₅ = 0.0014
D ₁₀ =	C _u =	C _c =
<u>Classification</u>		
USCS= CL	AASHTO= A-6(15)	
<u>Remarks</u>		
Specific Gravity Assumed		
F.M.=0.09		

Source of Sample: TB-10
Sample Number: U3

Depth: 12.5

Date: 4/16/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

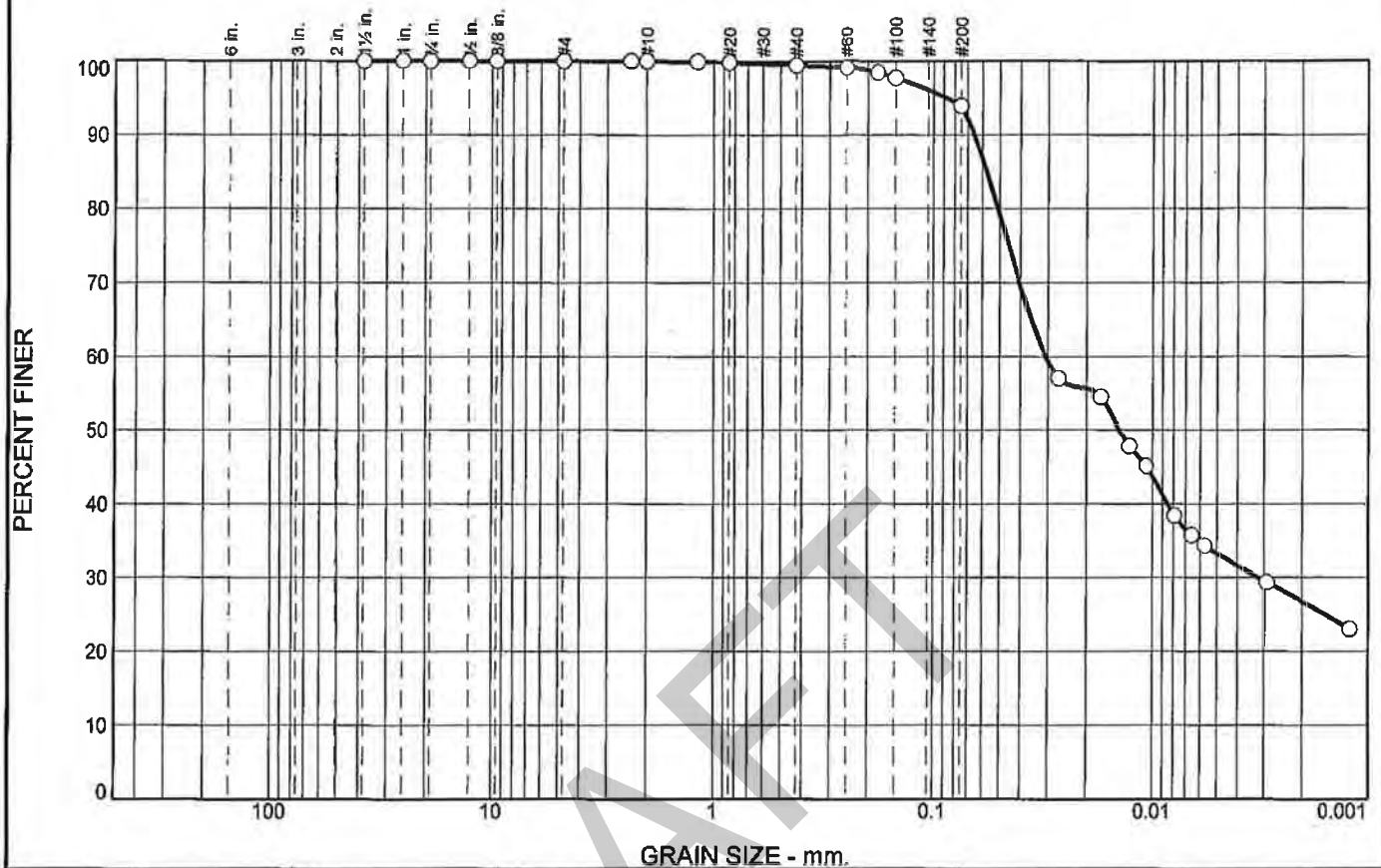
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.5	5.5	60.7	33.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	99.8		
#40	99.5		
#60	99.1		
#80	98.5		
#100	97.8		
#200	94.0		

* (no specification provided)

Material Description

PL= 19.1 **Atterberg Limits** LL= 44.9 PI= 25.8

Coefficients

D₉₀= 0.0654 D₈₅= 0.0573 D₆₀= 0.0309

D₅₀= 0.0143 D₃₀= 0.0032 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(26)

Remarks

Specific Gravity Assumed
F.M.=0.03

Source of Sample: TB-11
Sample Number: U1

Depth: 2.5

Date: 4/27/12

GSI Geotechnical Services, Inc.
10907 Aurora Ave. Urbandale, IA 50322
(515) 270-6842 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

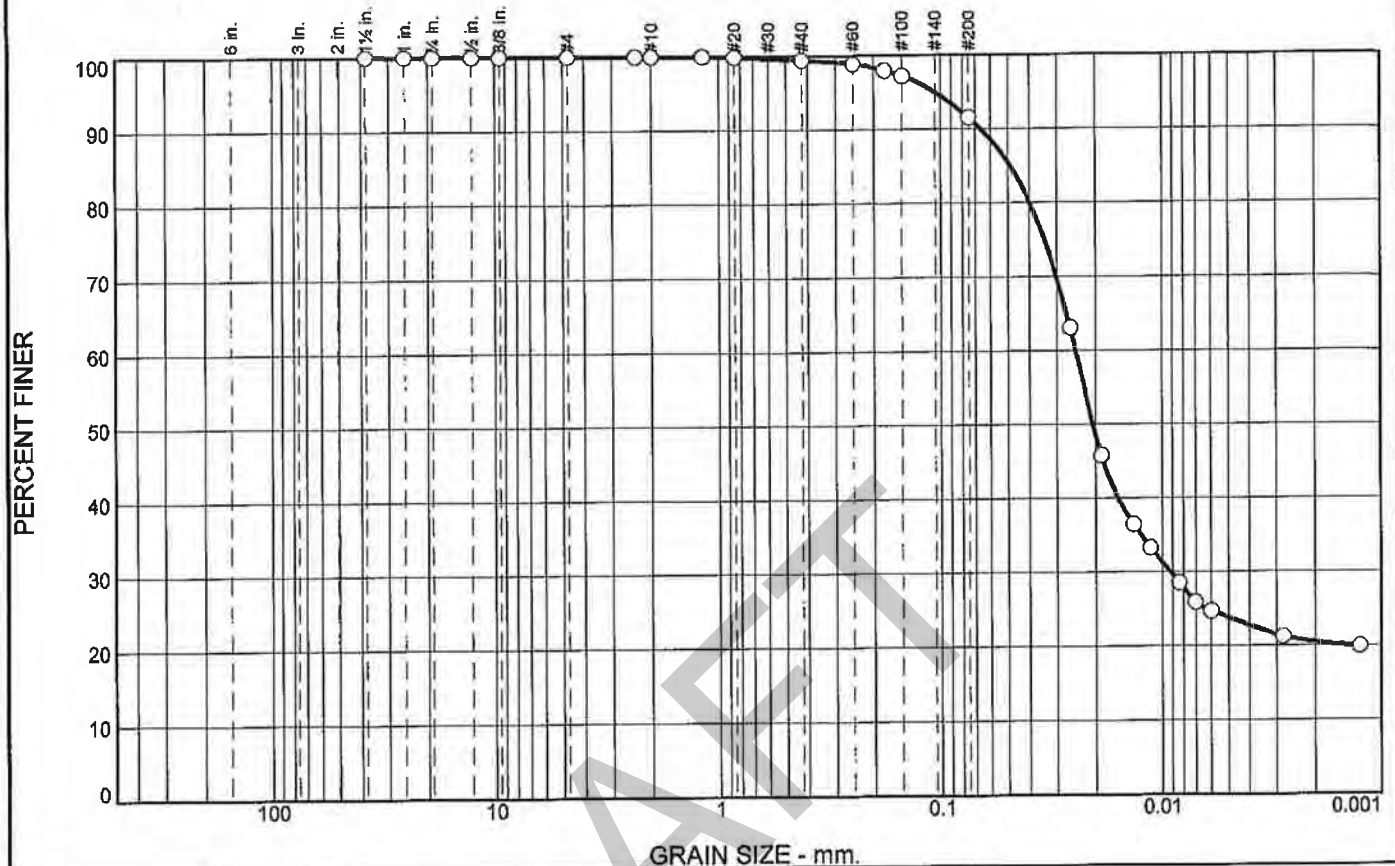
Project No: 126026

Figure

Tested By: CP/JLH

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	7.9	67.8	23.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	99.9		
#40	99.4		
#60	98.9		
#80	98.0		
#100	97.2		
#200	91.5		

(no specification provided)

Material Description		
PL= 15.8	<u>Atterberg Limits</u> LL= 38.5	PI= 22.7
D ₉₀ = 0.0662	<u>Coefficients</u> D ₈₅ = 0.0490	D ₆₀ = 0.0247
D ₅₀ = 0.0207	D ₃₀ = 0.0092	D ₁₅ =
D ₁₀ =	C _u =	C _c =
USCS= CL	<u>Classification</u> AASHTO= A-6(20)	
<u>Remarks</u> Specific Gravity Assumed F.M.=0.04		

Source of Sample: TB-11
Sample Number: U2

Depth: 7.5

Date: 4/10/12

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-6842 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

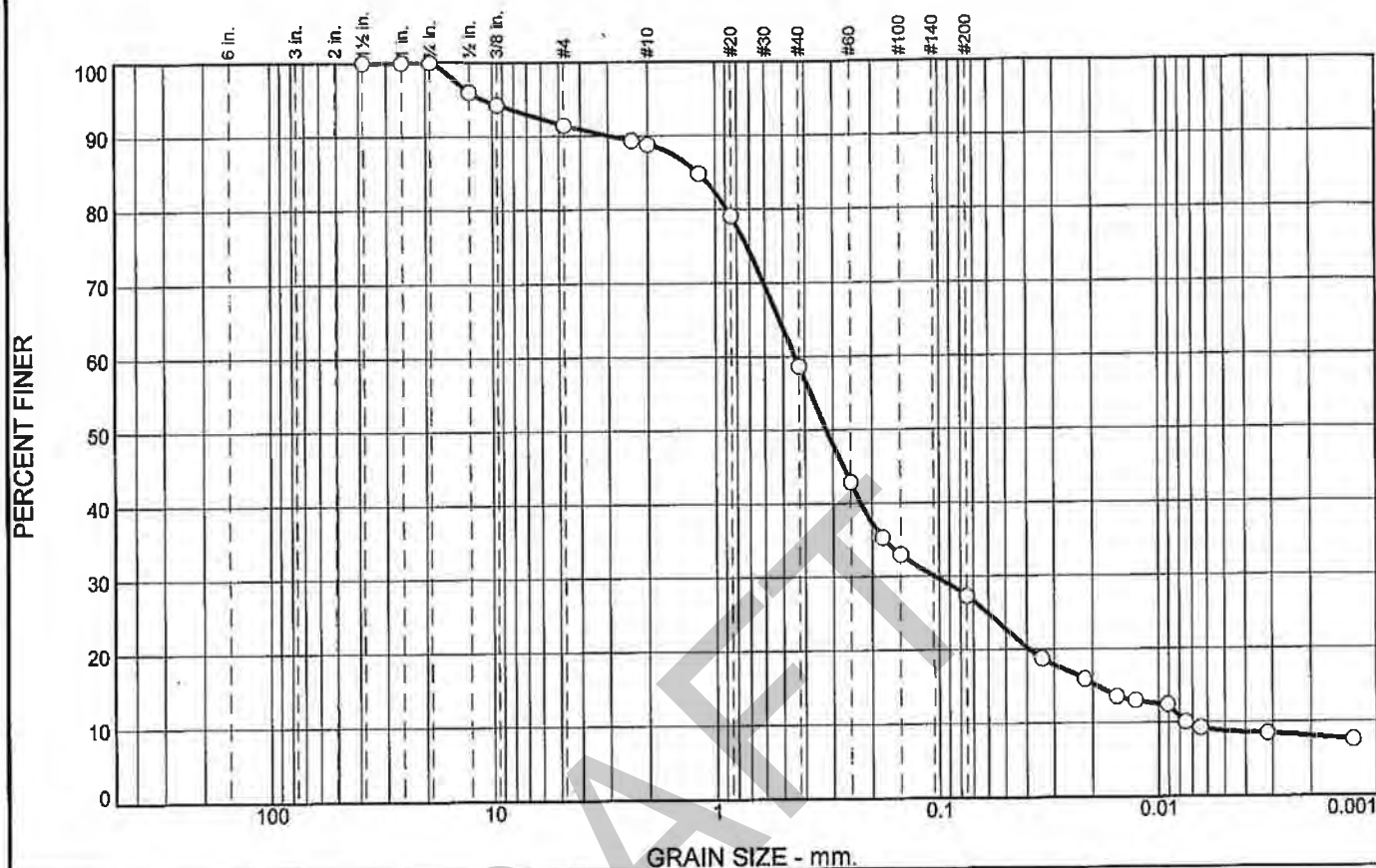
Project No: 126026

Figure

Tested By: JLH/RSA

Checked By: MTL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	8.5	2.7	30.2	31.3	18.5	8.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	96.0		
3/8"	94.3		
#4	91.5		
#8	89.4		
#10	88.8		
#16	84.8		
#20	79.1		
#40	58.6		
#60	42.8		
#80	35.3		
#100	33.0		
#200	27.3		

(no specification provided)

Material Description

PL= Atterberg Limits PI=

LL=

Coefficients

D₉₀= 2.9625 D₈₅= 1.2017 D₆₀= 0.4433

D₅₀= 0.3214 D₃₀= 0.1047 D₁₅= 0.0192

D₁₀= 0.0075 C_u= 59.34 C_c= 3.31

Classification

USCS= AASHTO=

Remarks

Specific Gravity Assumed

F.M.=1.89

Source of Sample: TB-11
Sample Number: S5

Depth: 22.5

Date: 3-13-12

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-6542 FAX (515) 270-1911

Client: HDR Engineering, Inc.
Project: Taft Speedway Levee

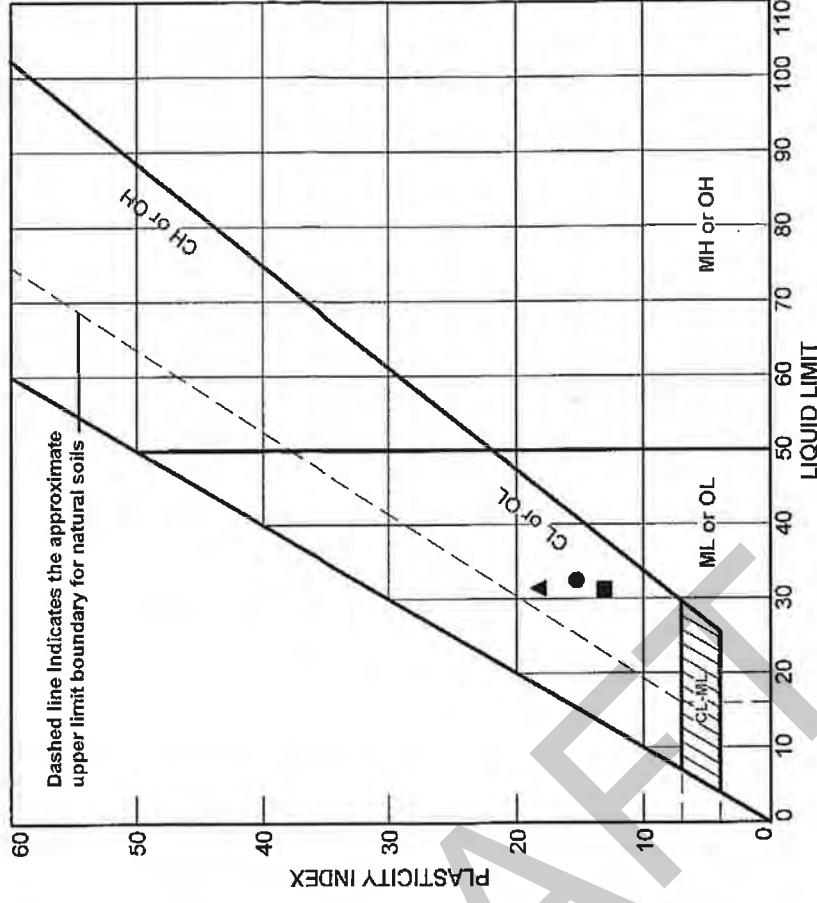
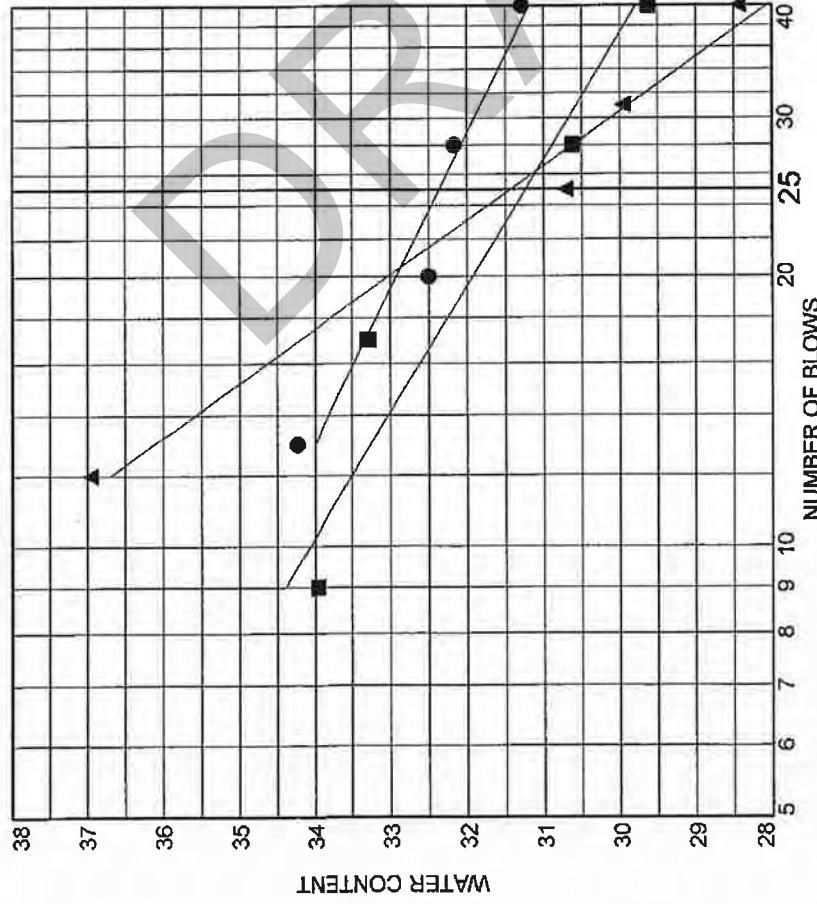
Project No: 126026

Figure

Tested By: JLH/JLW

Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
● TB-1	U1	2.5	4/13/12	CL			32.4	15.3
■ TB-1	U2	7.5	4/10/12	CL			31.2	13.1
▲ TB-1	U3	12.5	4/13/12	CL			31.4	18.3

Client HDR Engineering, Inc.

Project Taft Speedway Levee

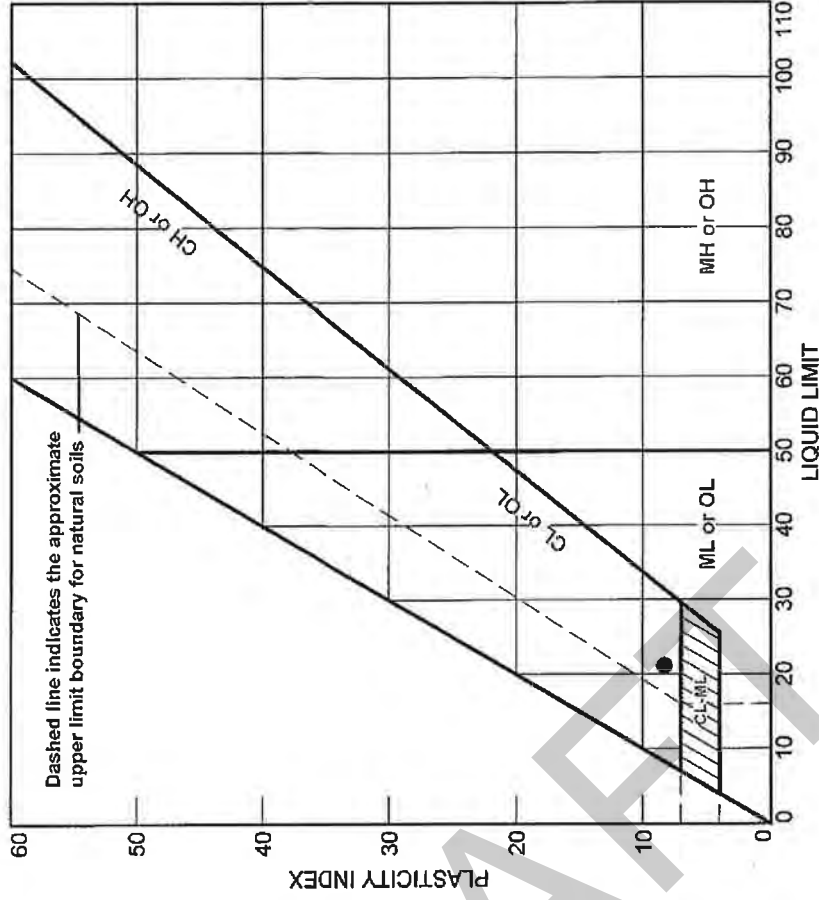
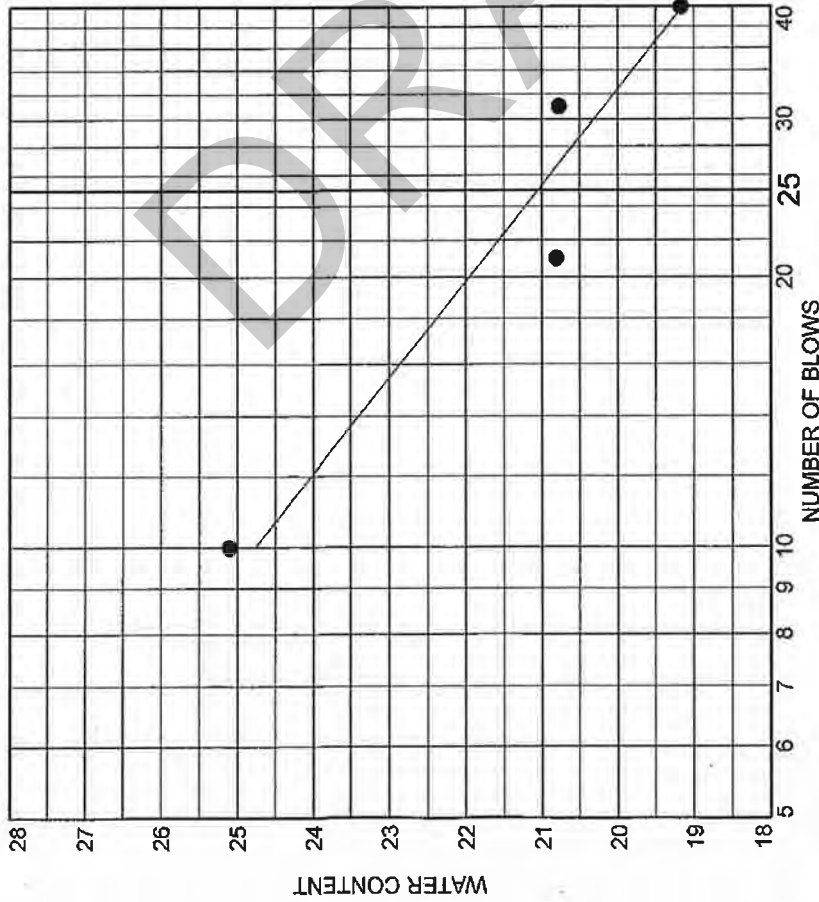
Project No. 126026

Figure

GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Tested By: ☐ RSA ☐ BAY ☐ DAH Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
TB-2	S6	22.5	3/12/12				21.1	8.3

Client HDR Engineering, Inc.

Project Taft Speedway Levee

Project No. 126026

Figure

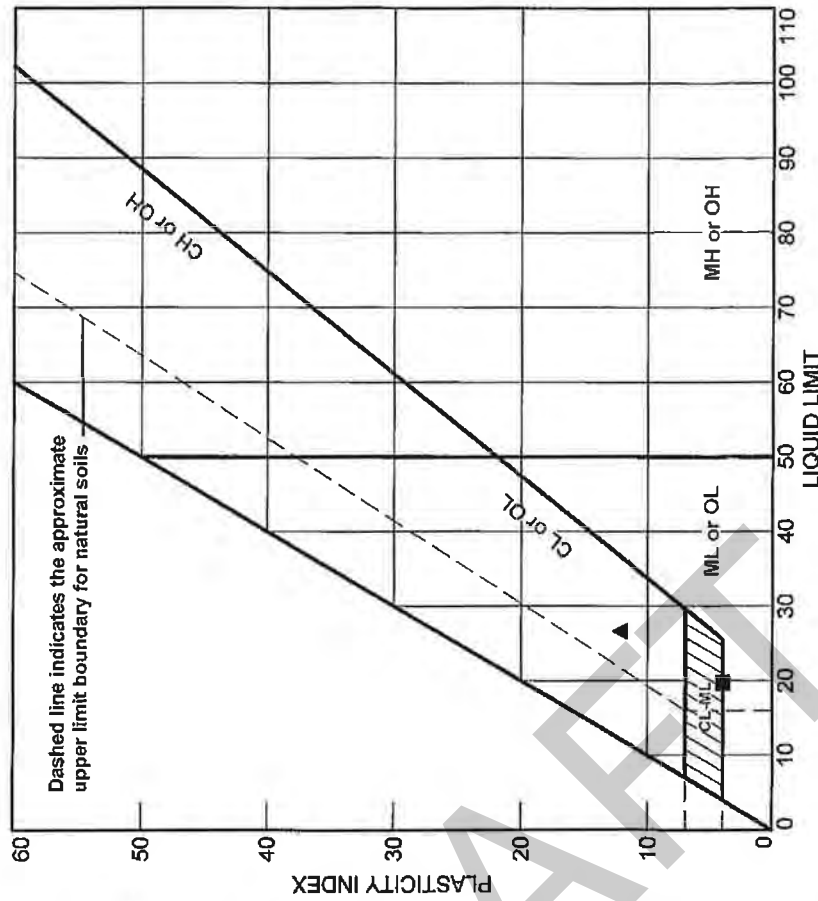
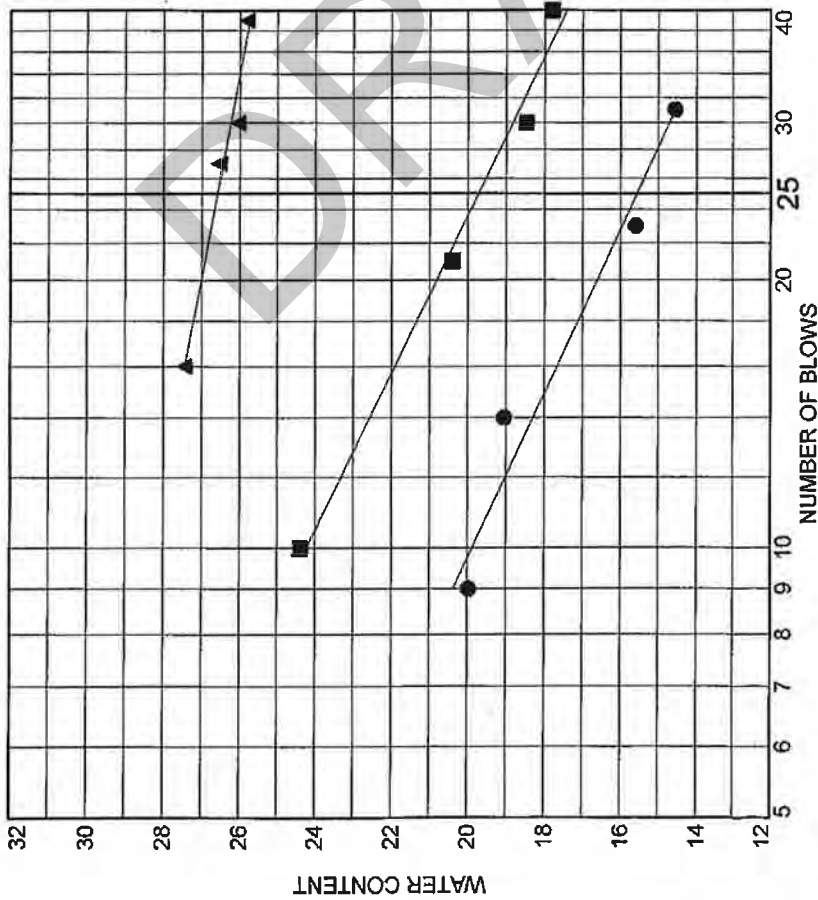
GSI

Geotechnical Services, Inc.

10807 Aurora Ave. Urbandale, IA 50322

(515) 270-6642 FAX (515) 276-1911

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
TB-3	S2	4	3/14/12				15.6	NP
TB-3	S7	22.5	3/12/12				19.7	4.0
TB-3	U4	12.5	4/16/12	CL			26.6	12.2

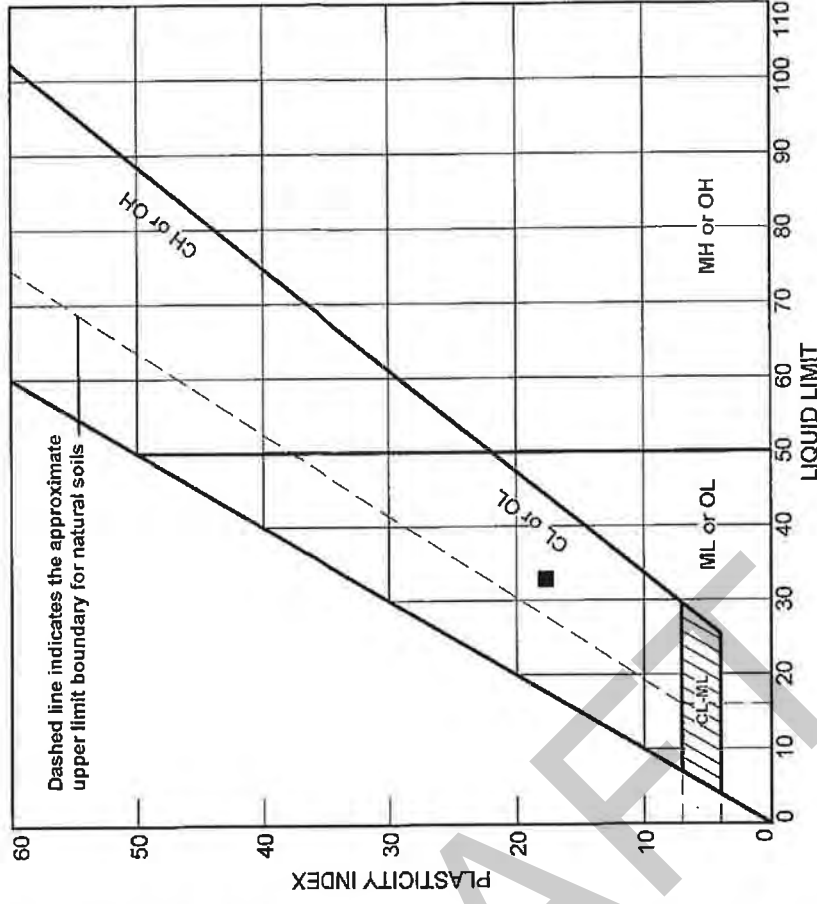
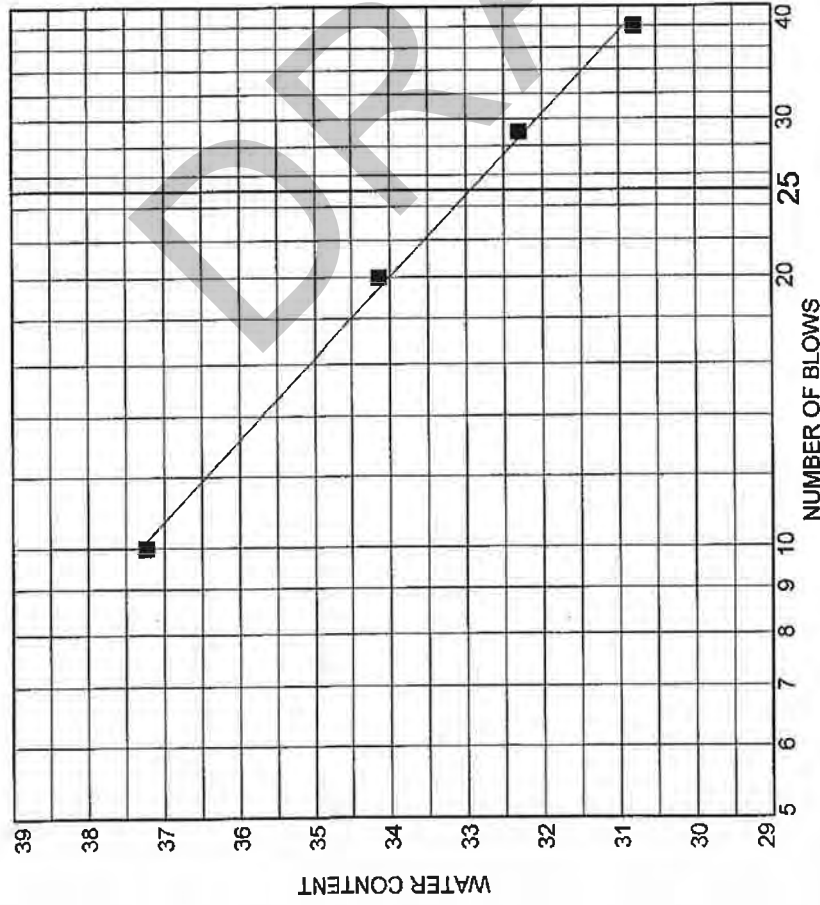
Client HDR Engineering, Inc.
Project Taft Speedway Levee

GSI Geotechnical
Services, Inc.
10687 Aurora Ave.
Urbana, IA 50532
(515) 270-6542 FAX (515) 270-1911

Project No. 126026 Figure

Tested By: ● BAY ■ BAY ▲ DAH Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
TB-4	S1	2.5	3/14	SM			NV	NP
TB-4	S2	7.5	3/12/12	CL			32.9	17.7

Client HDR Engineering, Inc.
Project Taft Speedway Levee

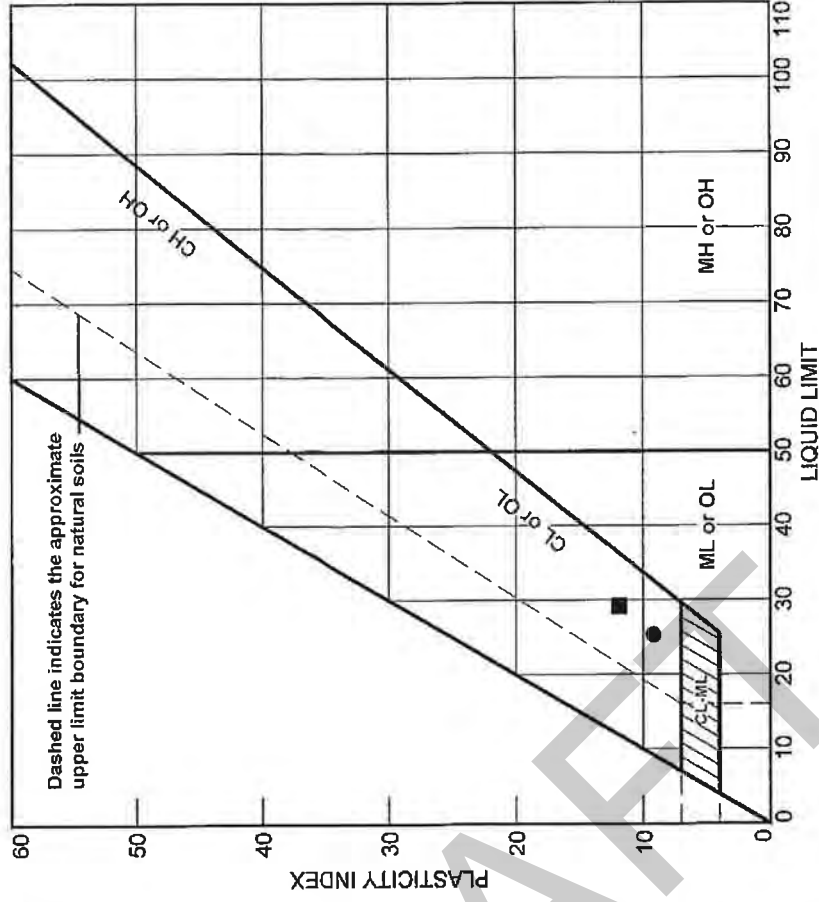
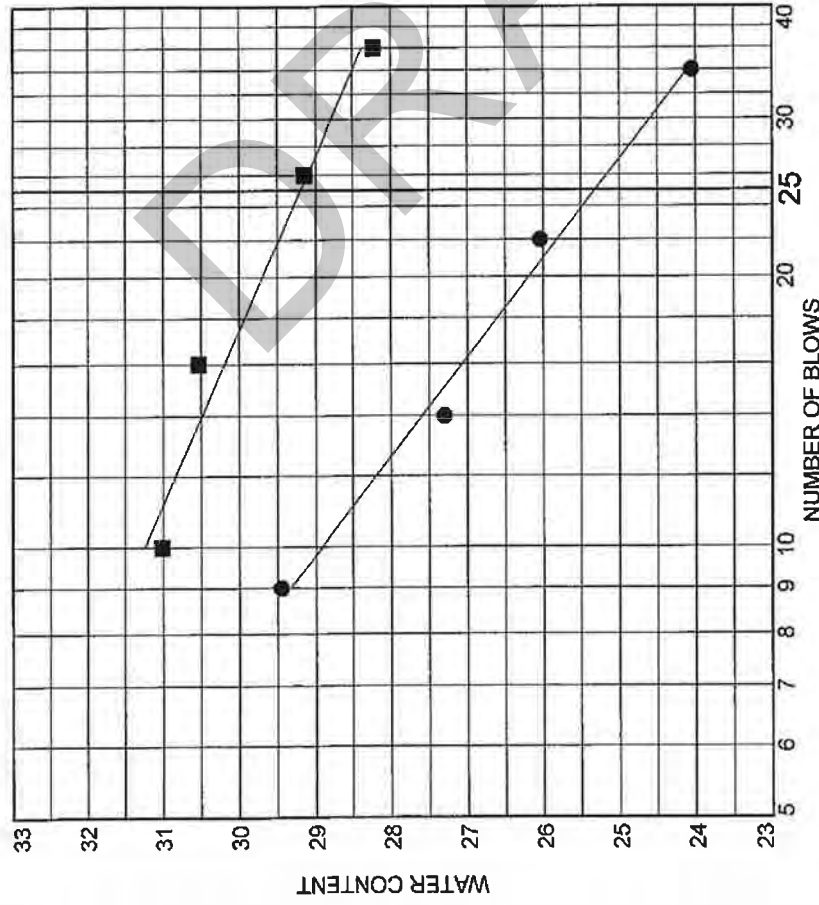
GSI Geotechnical
Services, Inc.
10607 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Project No. 126026 Figure

Tested By: BAY

Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
● TB-5	U2	4	3/20/12	CL			25.3	9.2
■ TB-5	S3	7.5	3/12/12	CL			29.2	11.9

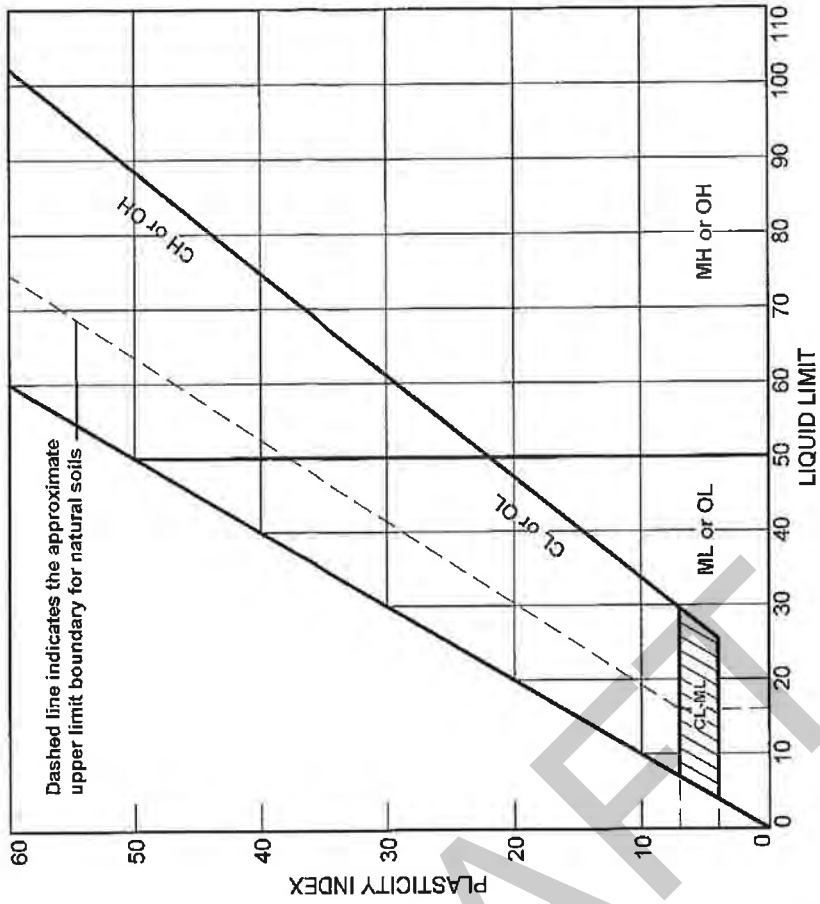
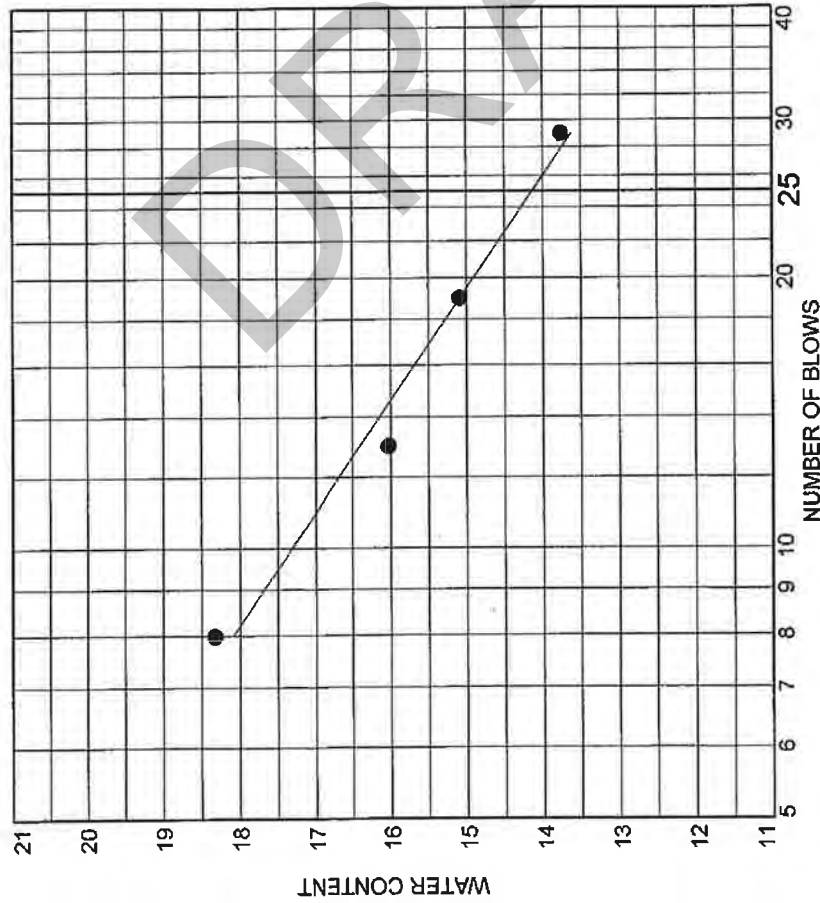
Client HDR Engineering, Inc.
Project Taft Speedway Levee

GSI Geotechnical
Services, Inc.
10807 Aurora Ave. Urbandale, IA 50322
(515) 270-8542 FAX (515) 270-1911

Project No. 126026 Figure

Tested By: ● JLH ■ BAY Checked By: MTL

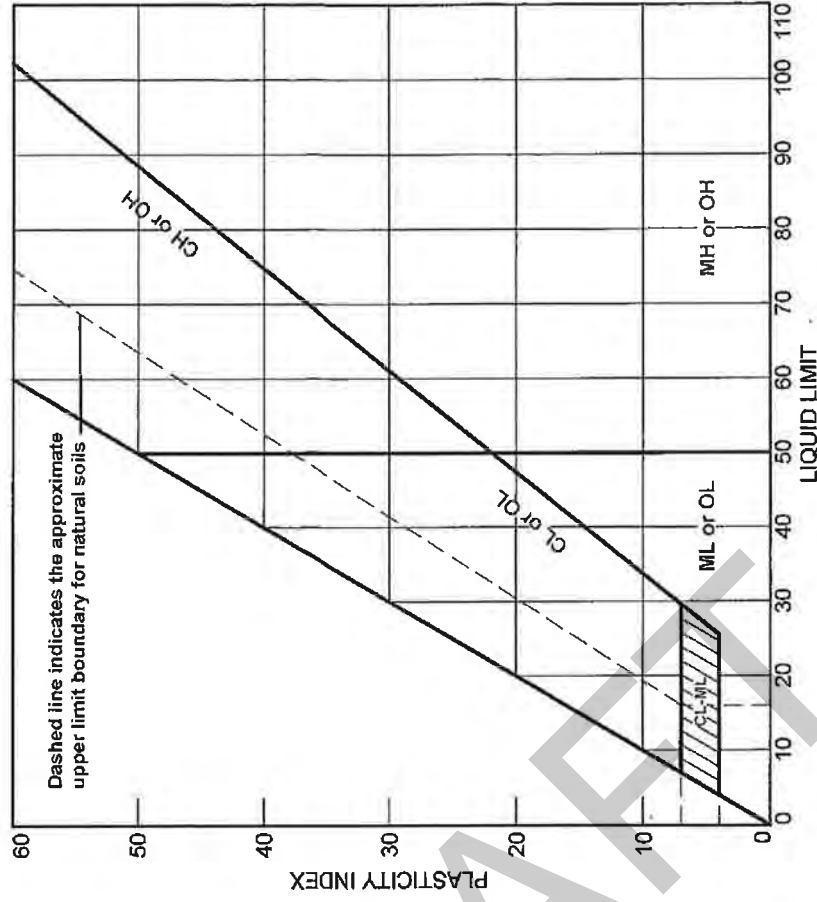
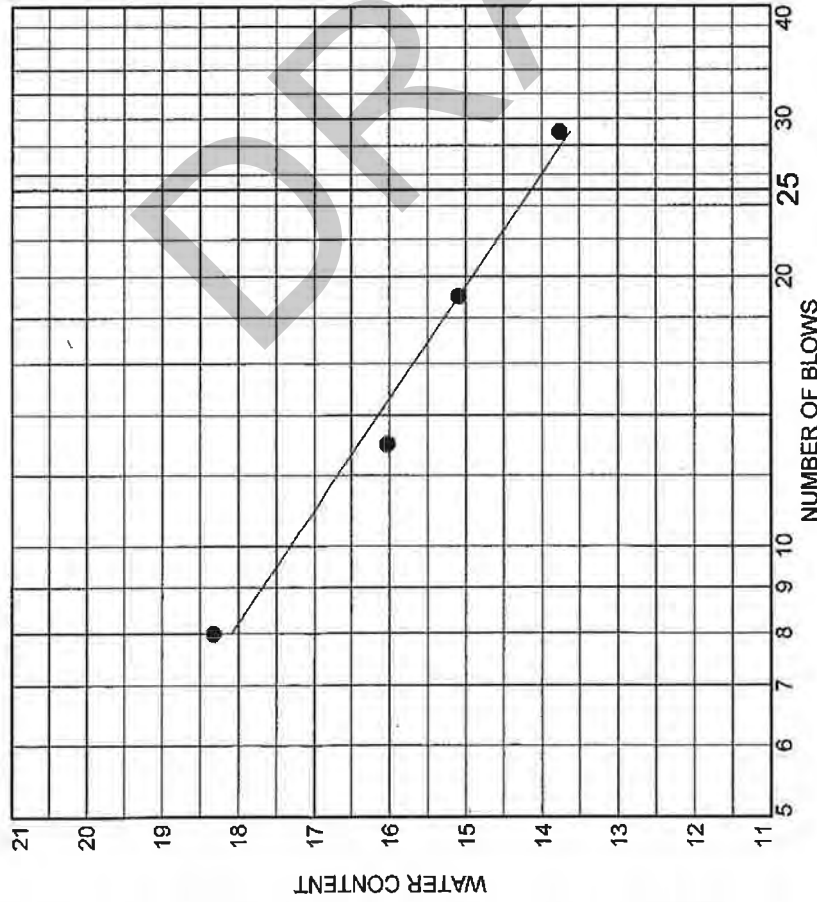
LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
TB-6	S2	4	3/12/12	SM			14.1	NP

Client HDR Engineering, Inc.		GSI Geotechnical Services, Inc. 10607 Aurora Ave. Urbandale, IA 50322 (515) 270-8542 FAX (515) 270-1911
Project Taft Speedway Levee		
Project No. 126026	Figure	

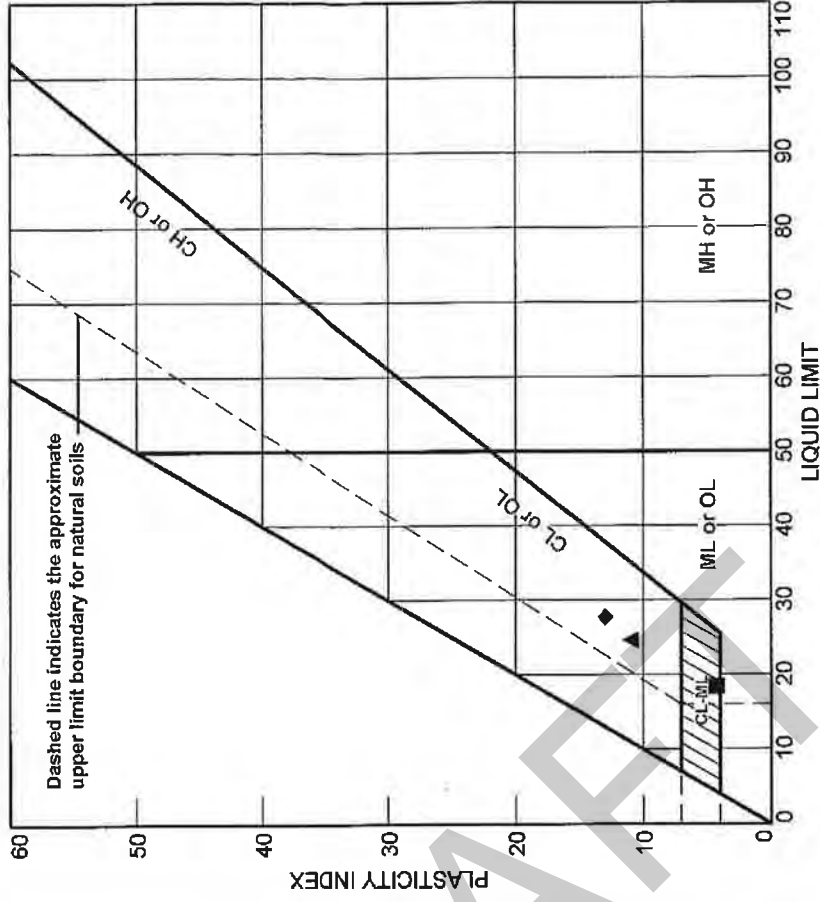
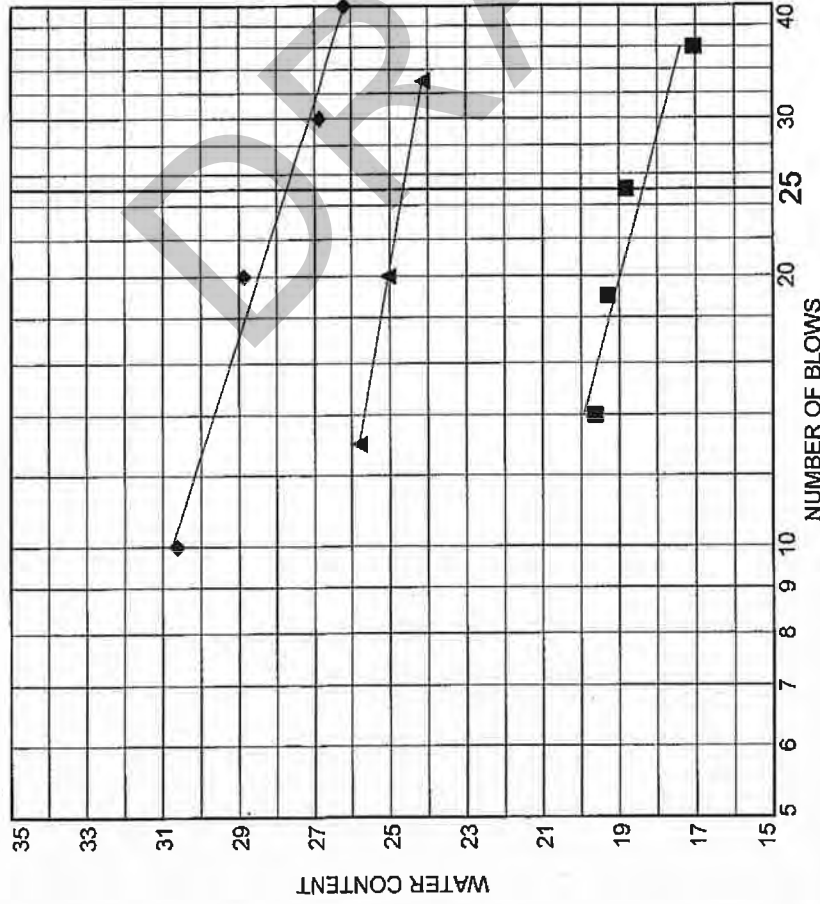
LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
● TB-6	S2	4	3/12/12				14.1	NP
■ TB-6	S5	17.5	3/12/12	SP			NV	NP

Client HDR Engineering, Inc.		GSI Geotechnical Services, Inc. 10807 Aurora Ave. Urbandale, IA 50322 (515) 270-6542 FAX (515) 270-1911
Project Taft Speedway Levee		
Project No. 126026	Figure	

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/FEET	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
TB-7	S5	17.5	3/12/12	SP-SM			NV	NP
TB-7	S7	27.5	4/13/12				18.4	4.3
TB-7	U1	2.5	4/13/12				24.6	11.0
TB-7	U3	7.5	4/16/12	CL			27.7	13.0

Client HDR Engineering, Inc.

Project Taft Speedway Levee

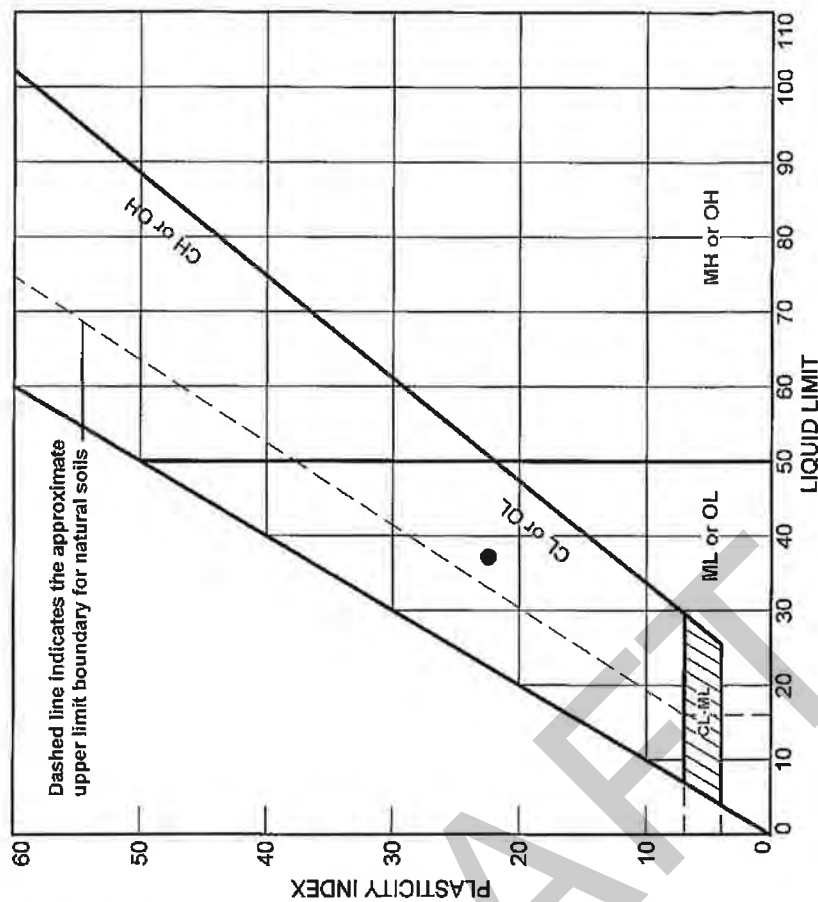
GSI Geotechnical Services, Inc.
10607 Aurora Ave. Urbana, IL 61856
(616) 270-9542 FAX (616) 270-1911

Project No. 126026

Figure

Tested By: ● JHLH ■ DAH ▲ DAH ◆ RSA Checked By: MTL

Number of Blows (N)	Water Content (%)
10	41.5
20	37.5
30	36.2
35	35.2
40	35.0

[illegible]

Client HDR Engineering, Inc.
Project Taft Speedway Levee

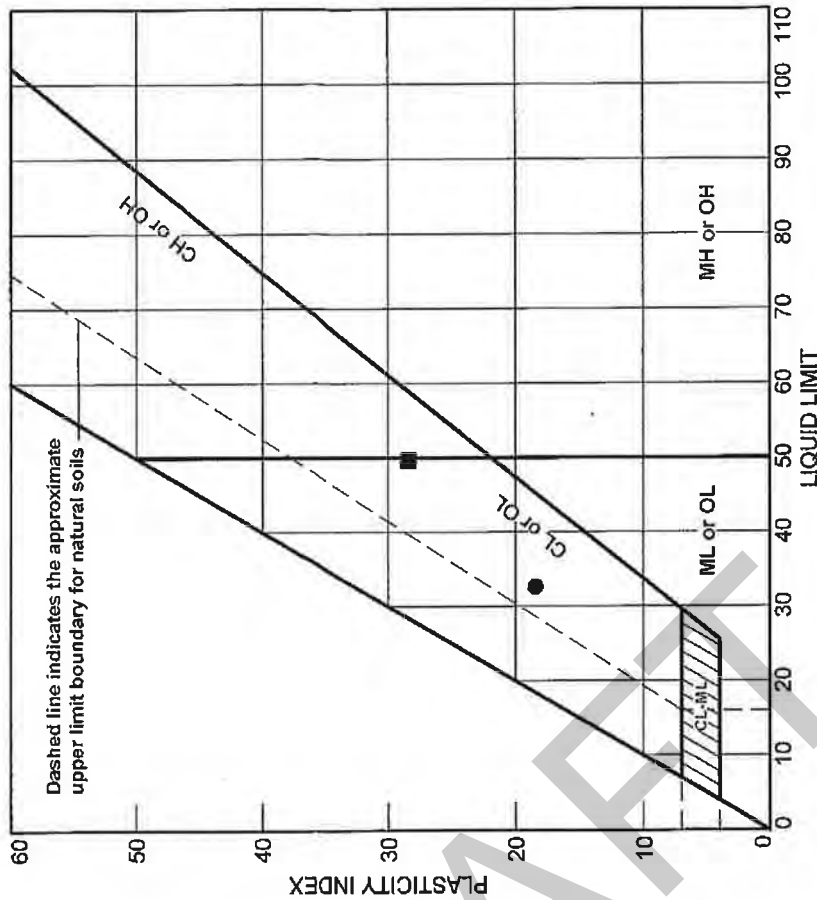
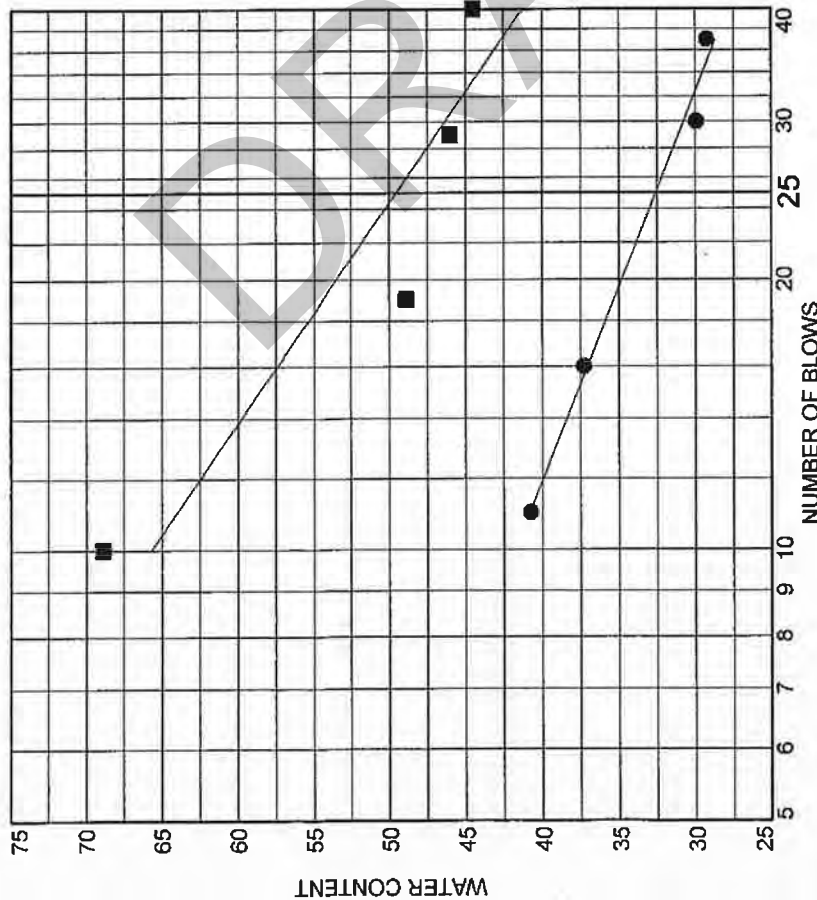


Project No. 126026	Figure
--------------------	--------

Tested By: DAH

Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
● TB-9	S7	22.5	4/13/12	CL			32.6	18.4
■ TB-9	U2	4	4/10/12	CH		29	49.6	28.4

Client HDR Engineering, Inc.

Project Taft Speedway Levee

Project No. 126026

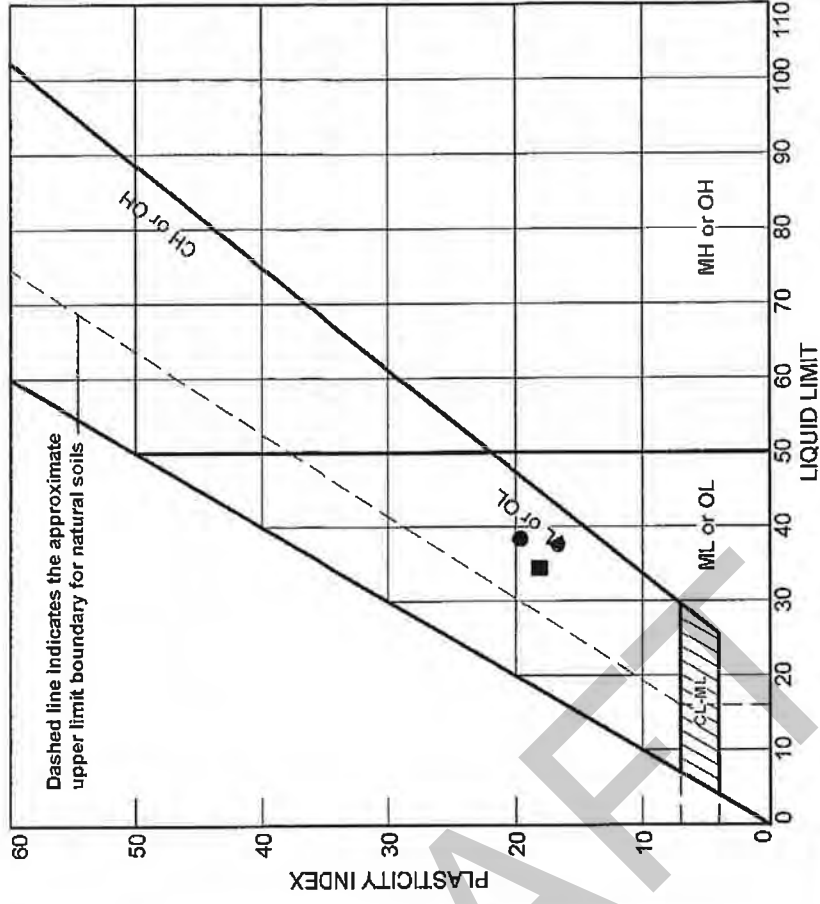
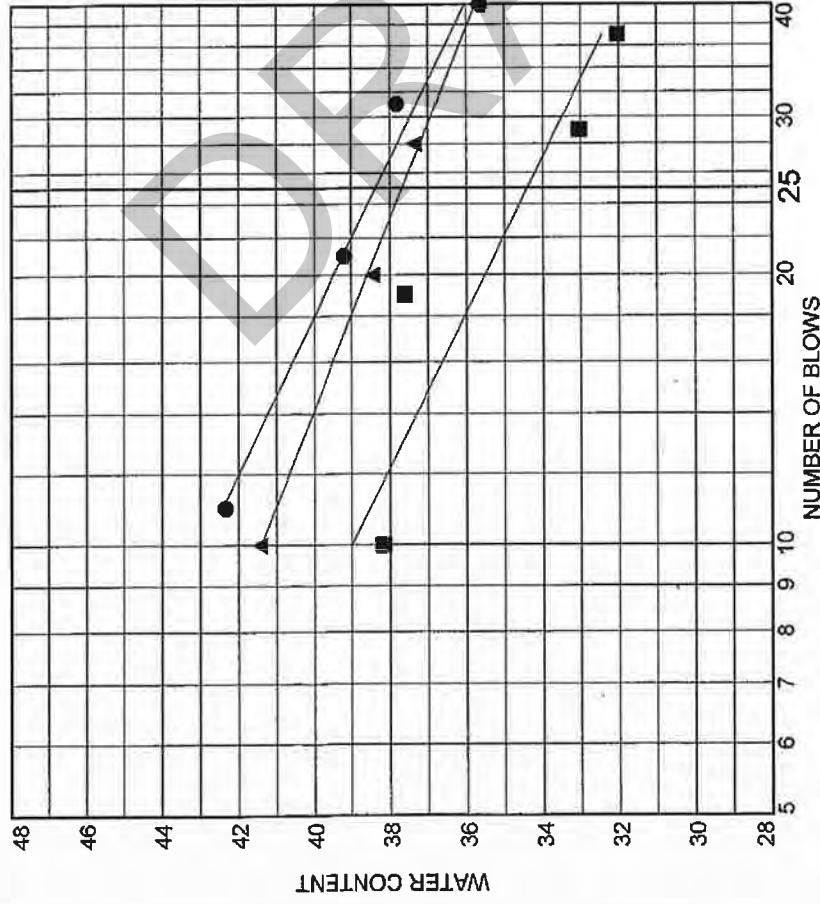
Figure

GSI Geotechnical Services, Inc.
10507 Aurora Ave. Urbandale, IA 50322
(615) 270-6542 FAX (515) 270-1911

Tested By: ● RSA ■ BAY

Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NIM %	LL	PI
● TB-10	U1	2.5	4/10/12	CL		30	38.4	19.6
■ TB-10	U2	7.5	4/10/11	CL			34.4	18.1
▲ TB-10	U3	12.5	4/16/12	CL			37.7	16.9

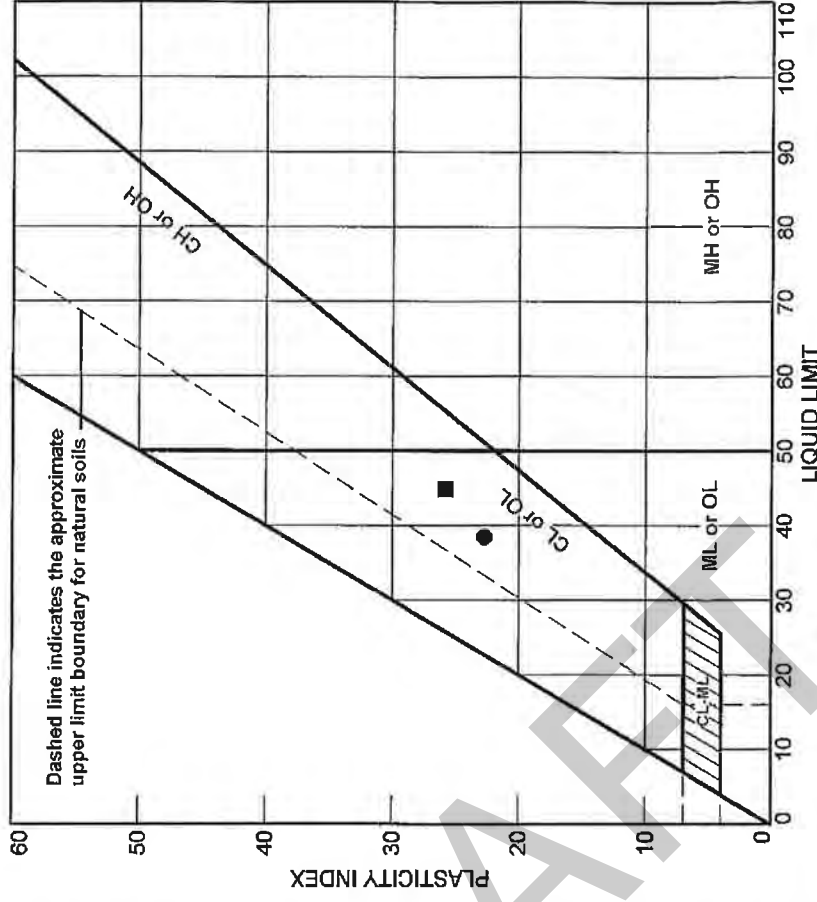
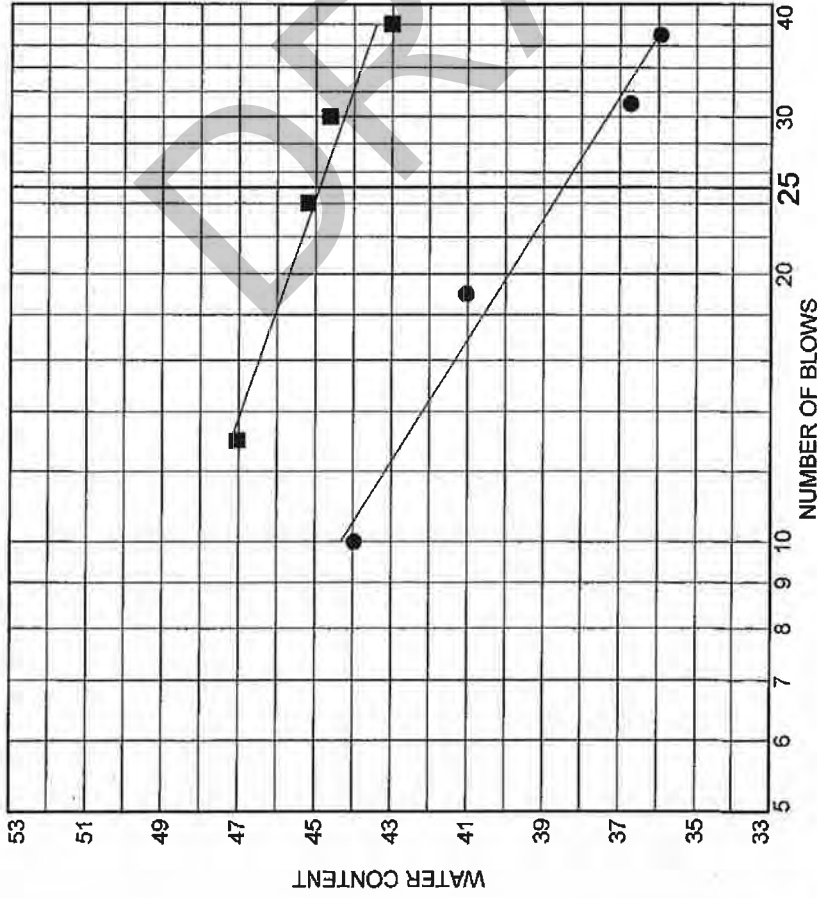
Client HDR Engineering, Inc.
Project Taft Speedway Levee

GSI Geotechnical Services, Inc.
10807 Aurora Ave. Urbana, IL 61802
(616) 270-6542 FAX (616) 270-1911

Project No. 126026 Figure

Tested By: ■ BAY ▲ RSA Checked By: MTL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PI
●	TB-11	U2	4/10/12	CL			38.5	22.7
■	TB-11	U1	4/27/12	CL			44.9	25.8

Client HDR Engineering, Inc.

Project Taft Speedway Levee

Project No. 126026

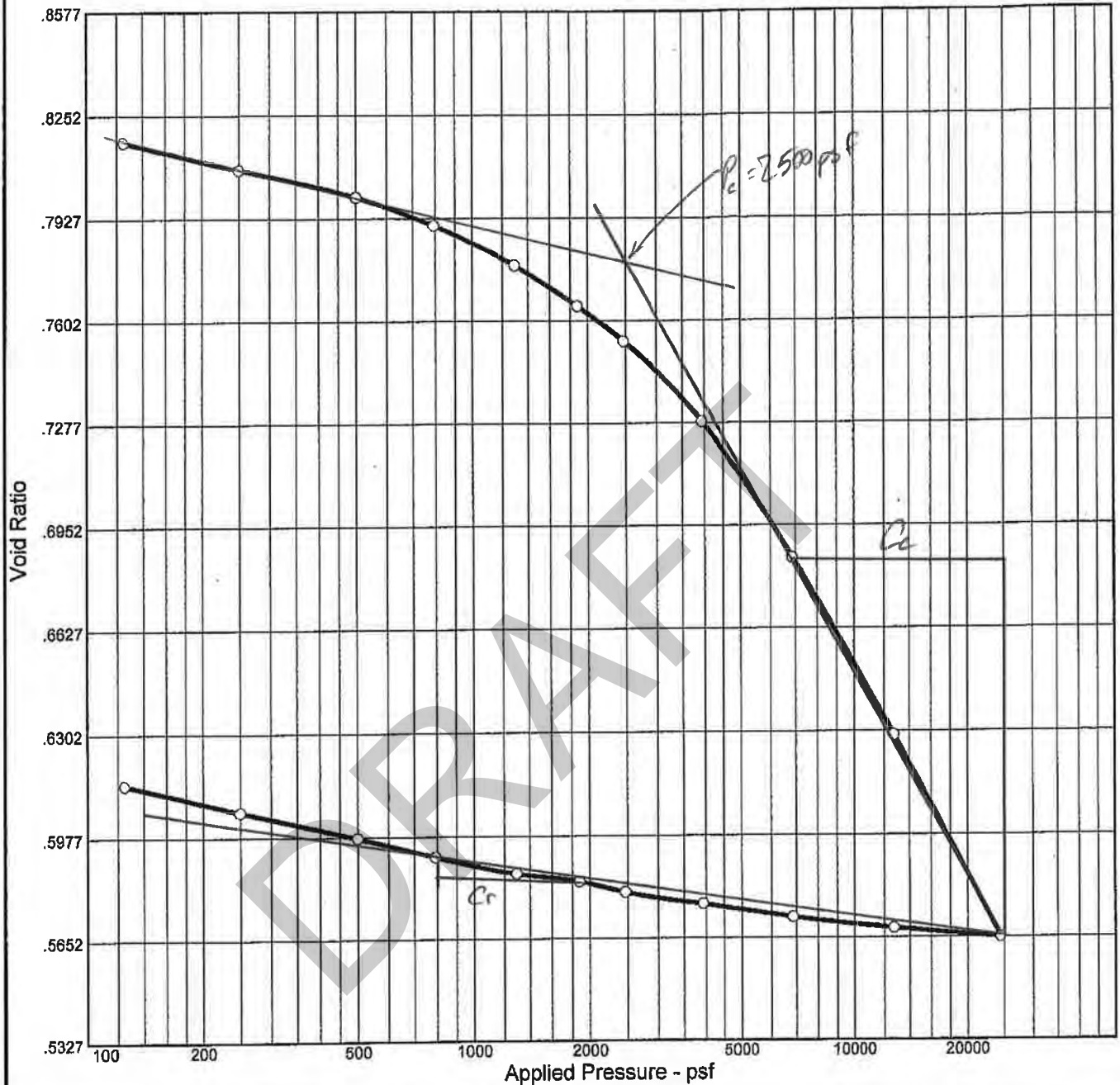
Figure



Tested By: ☐ BAY ☐ CP/JLH

Checked By: MTL

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Molsture							
83.7 %	25.5 %	92.4			2.70			0.824

MATERIAL DESCRIPTION

$$C_c = \frac{0.685 - 0.565}{\log 800 - \log 24463} = 0.217$$

$$C_r = \frac{0.593 - 0.585}{\log 800 - \log 1850} = 0.022$$

Project No. 126026

Client: HDR Engineering, Inc.

Project: Taft Speedway Levee

Source: TB-1

Elev./Depth: 2.5

Remarks:

Specific Gravity Assumed



Geotechnical Services, Inc.

10607 Aurora Ave. Urbandale, IA 50322 (515) 270-6542

Figure

Dial Reading vs. Time

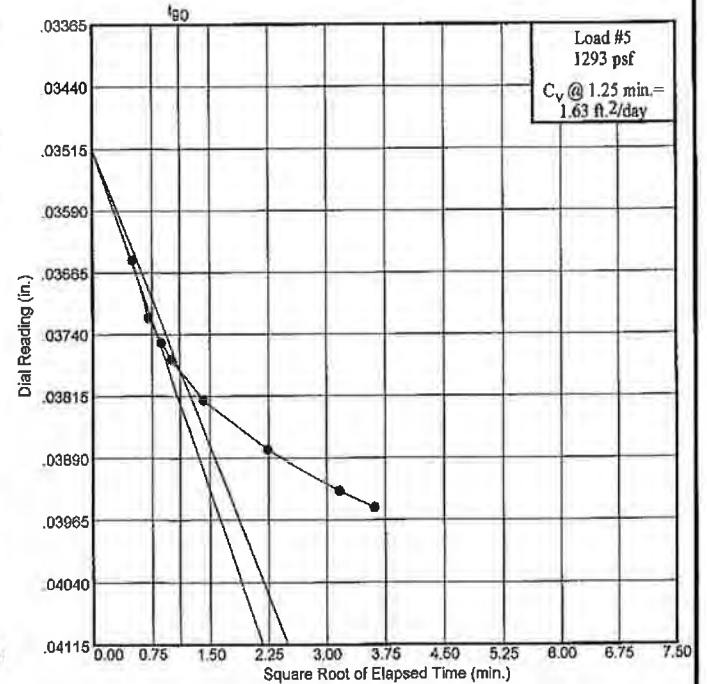
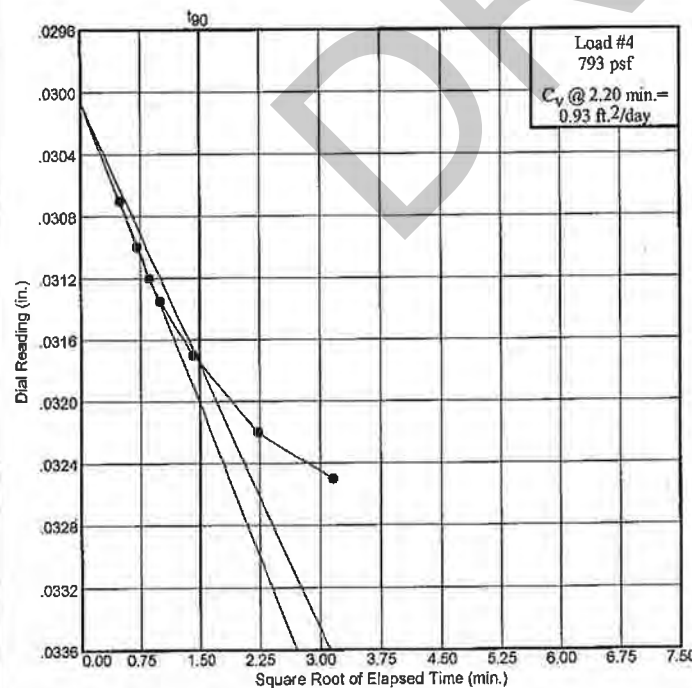
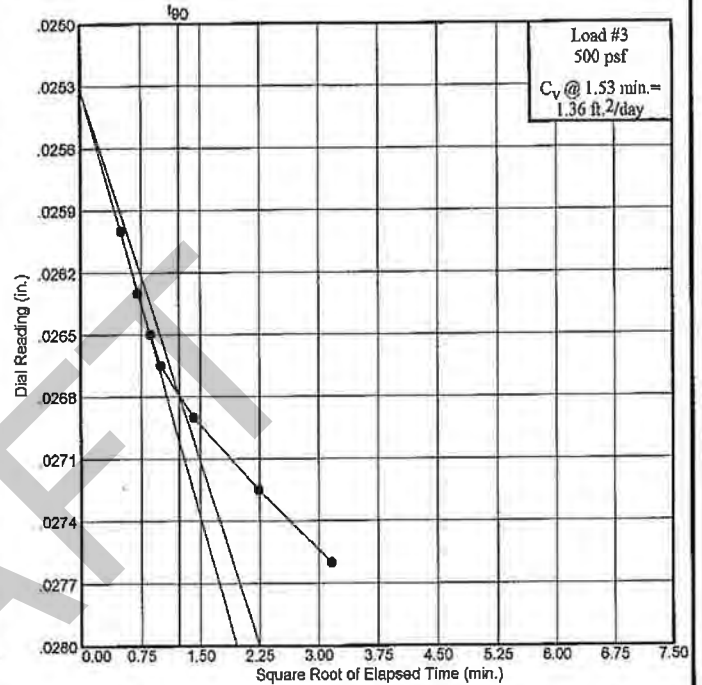
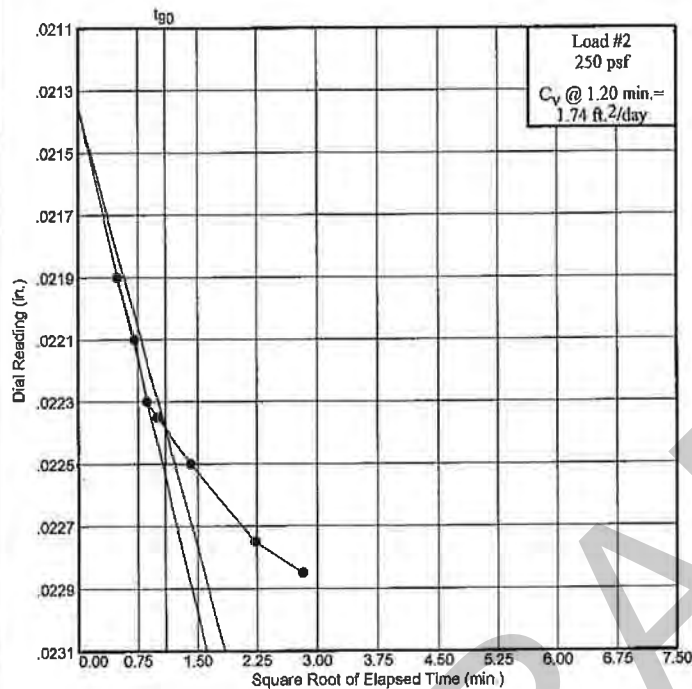
Project No.: 126026

Project: Taft Speedway Levee

Source: TB-1

Sample No.: U1

Elev./Depth: 2.5



Geotechnical Services, Inc.

10607 Aurora Ave. Urbandale, IA 50322 (515) 270-6542

Figure

Dial Reading vs. Time

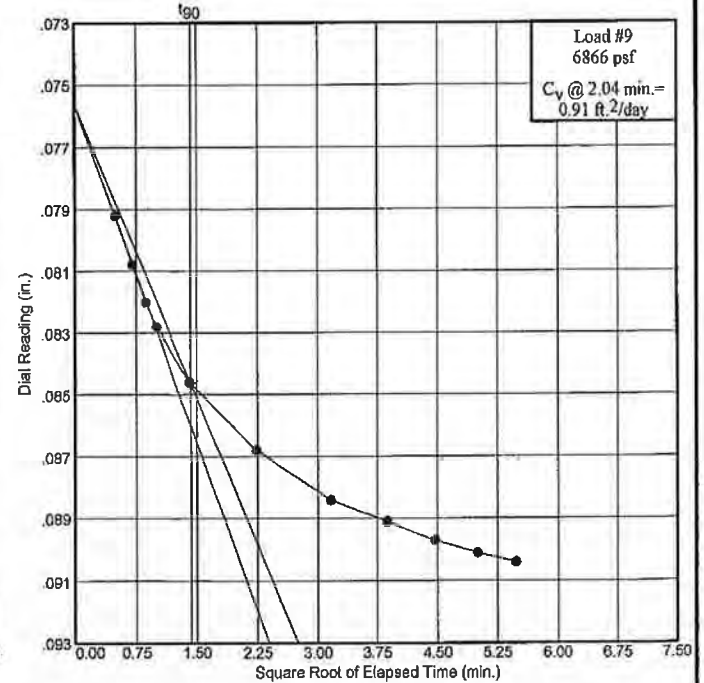
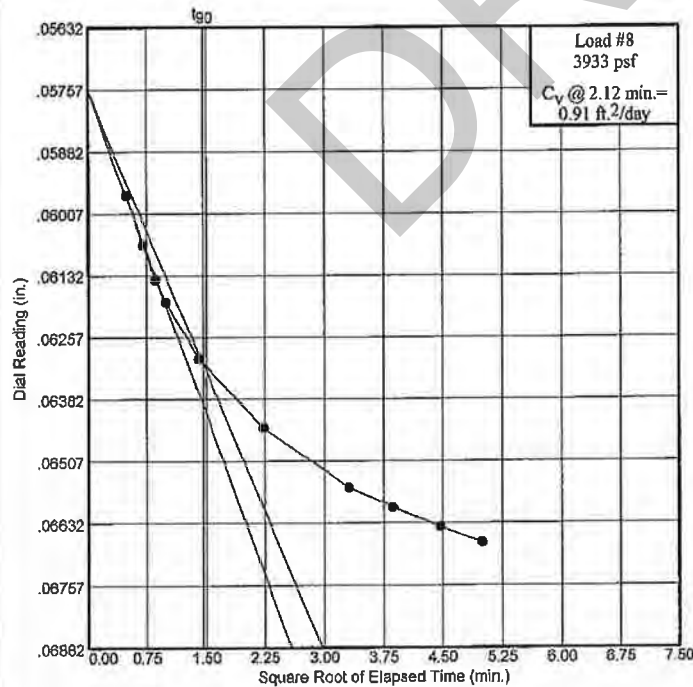
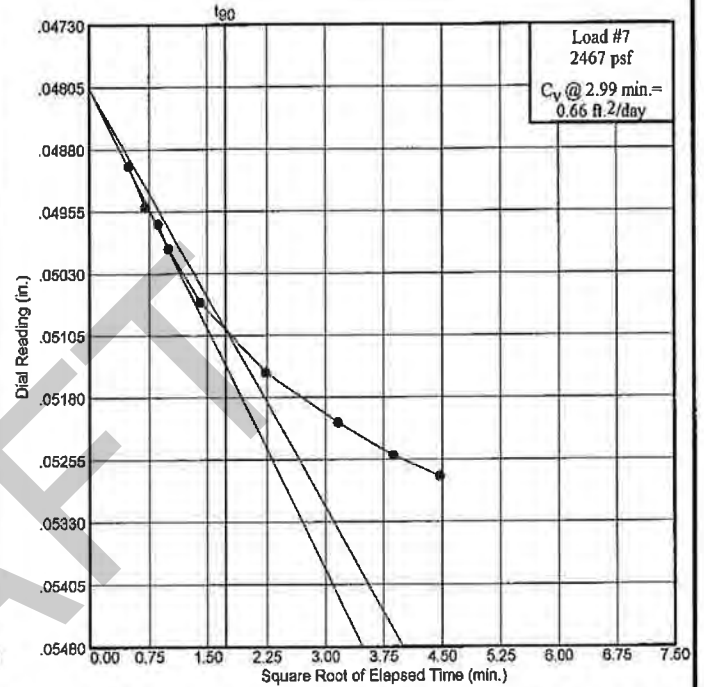
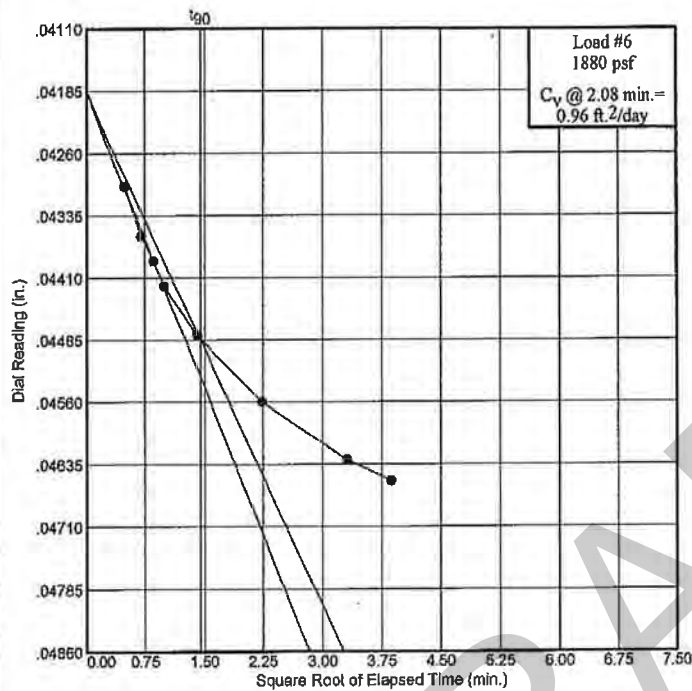
Project No.: 126026

Project: Taft Speedway Levee

Source: TB-1

Sample No.: U1

Elev./Depth: 2.5



GSI

Geotechnical Services, Inc.

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Figure

Dial Reading vs. Time

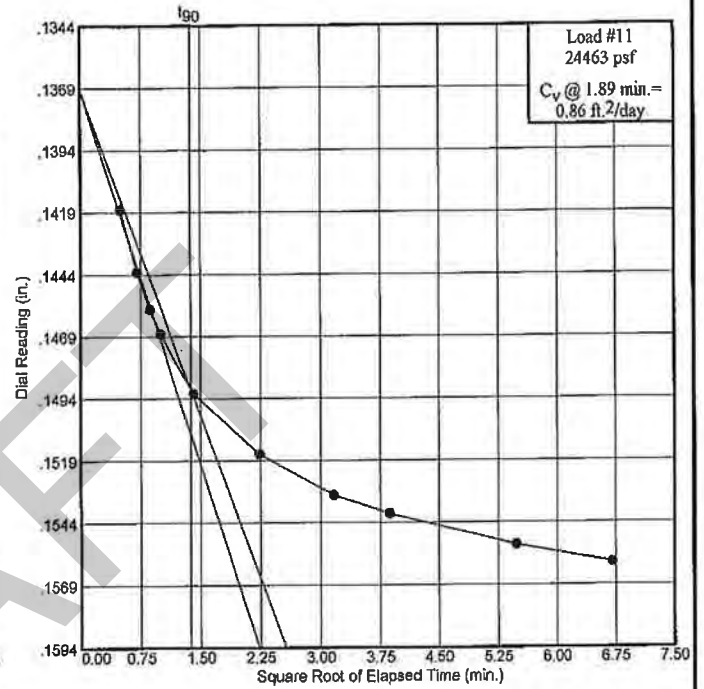
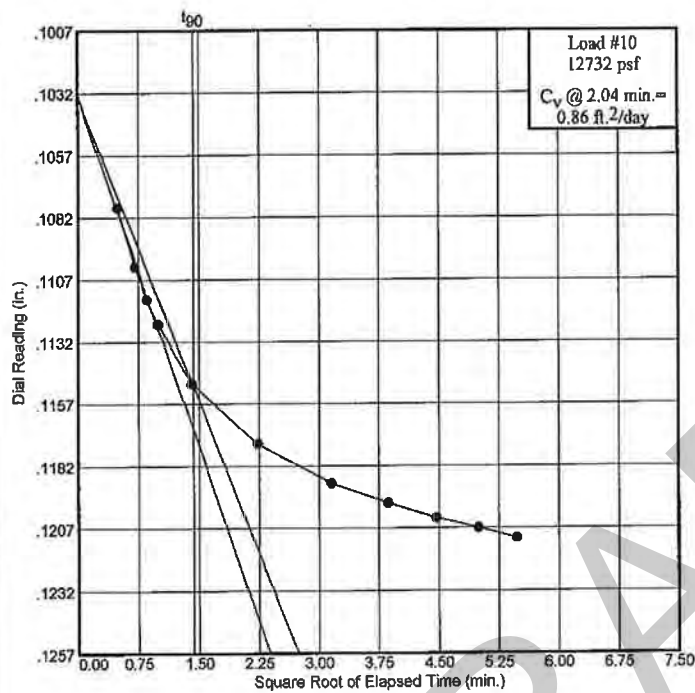
Project No.: 126026

Project: Taft Speedway Levee

Source: TB-1

Sample No.: U1

Elev./Depth: 2.5



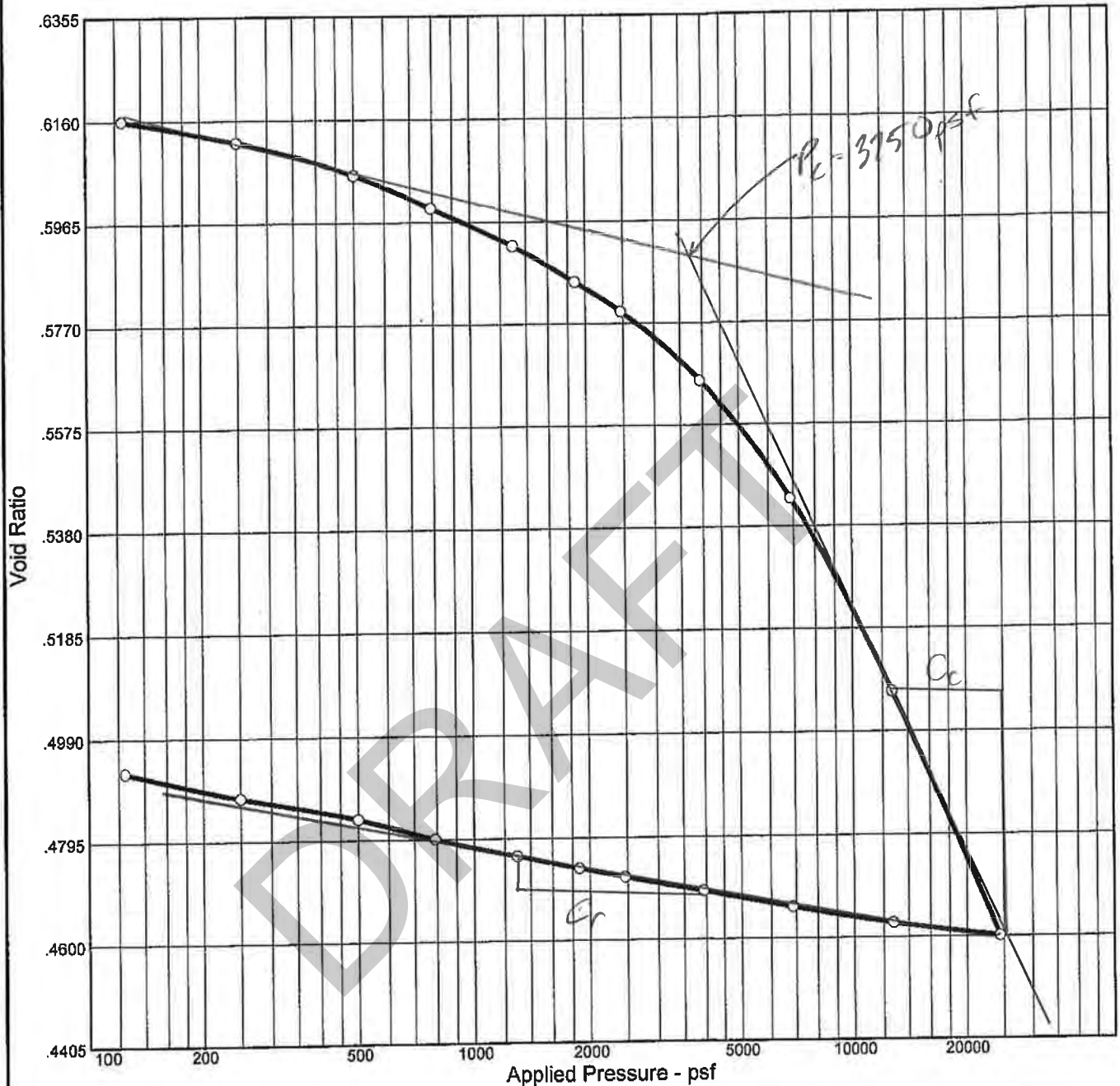
GSI

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Figure

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
87.7 %	20.3 %	103.2			2.68			0.621

MATERIAL DESCRIPTION

$$C_c = \frac{0.460 - 0.506}{\log 4000 - \log 12732} = 0.162$$

$$C_r = \frac{0.460 - 0.478}{\log 4000 - \log 1300} = 0.017$$

Project No. 126026

Client: HDR Engineering, Inc.

Project: Taft Speedway Levee

Source: TB-5

Elev./Depth: 4

Remarks:

Specific Gravity Assumed



GSI

Geotechnical Services, Inc.

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Figure

Dial Reading vs. Time

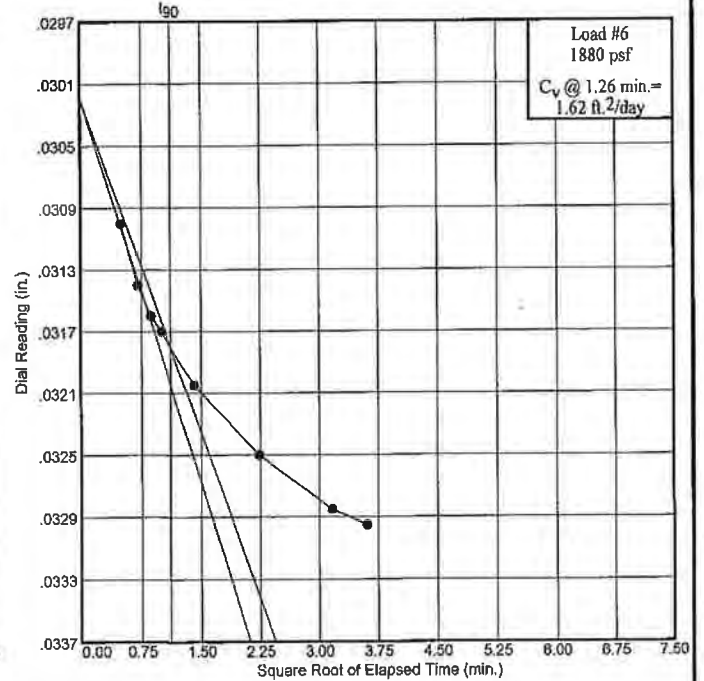
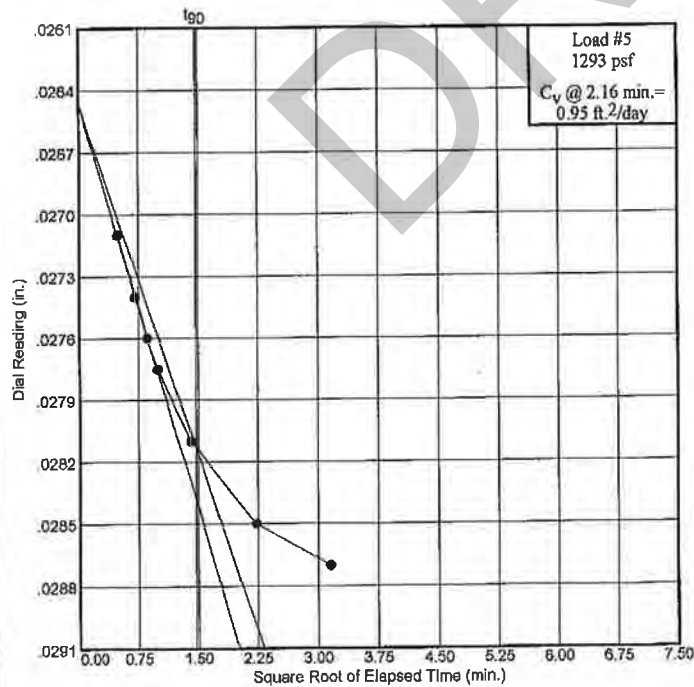
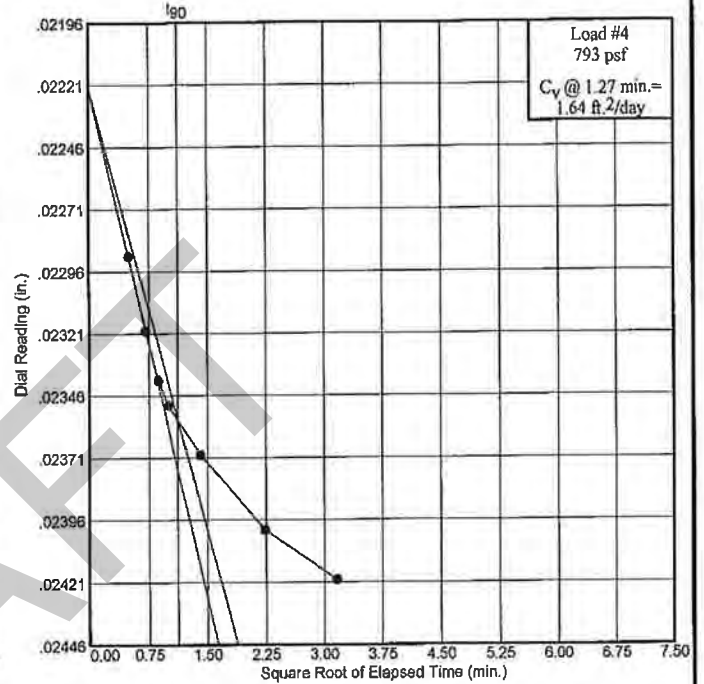
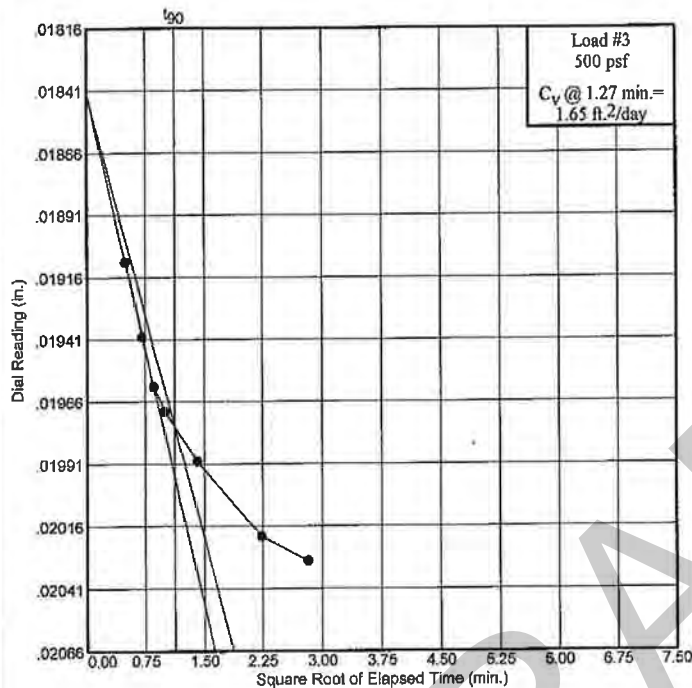
Project No.: 126026

Project: Taft Speedway Levee

Source: TB-5

Sample No.: U2

Elev./Depth: 4



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Geotechnical Services, Inc.

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Figure

Dial Reading vs. Time

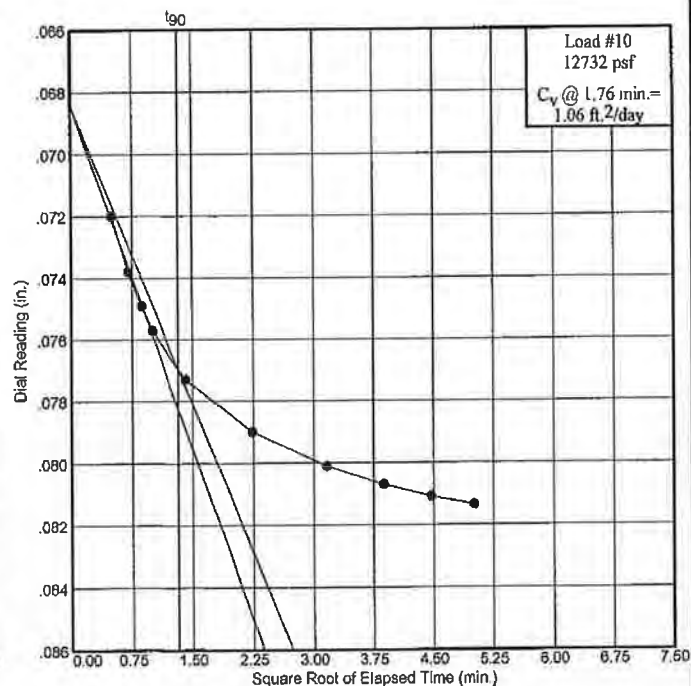
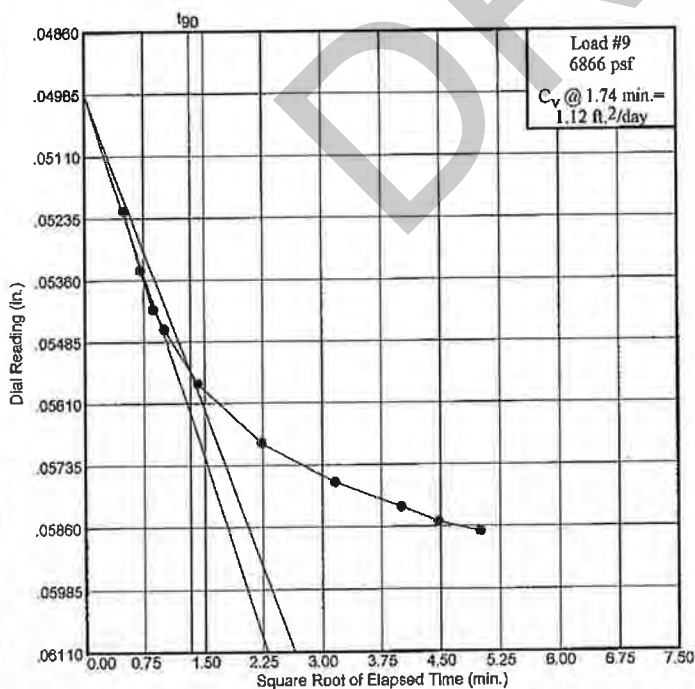
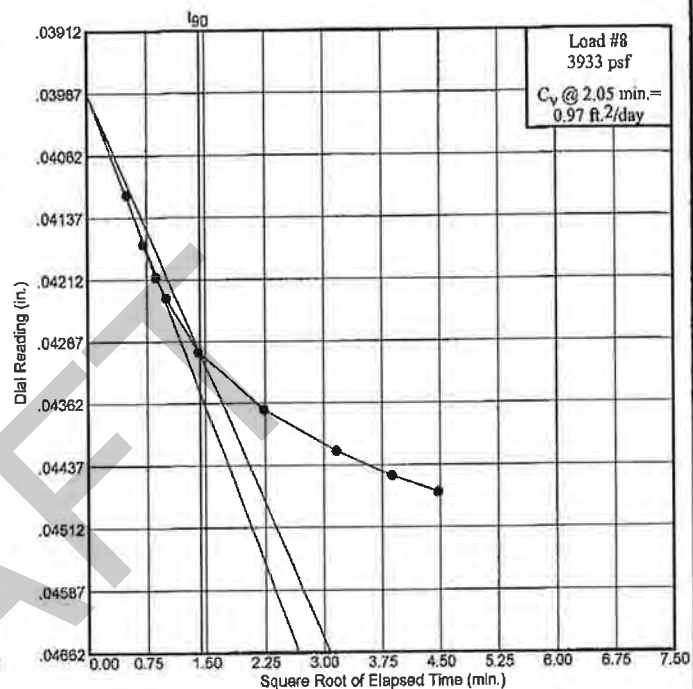
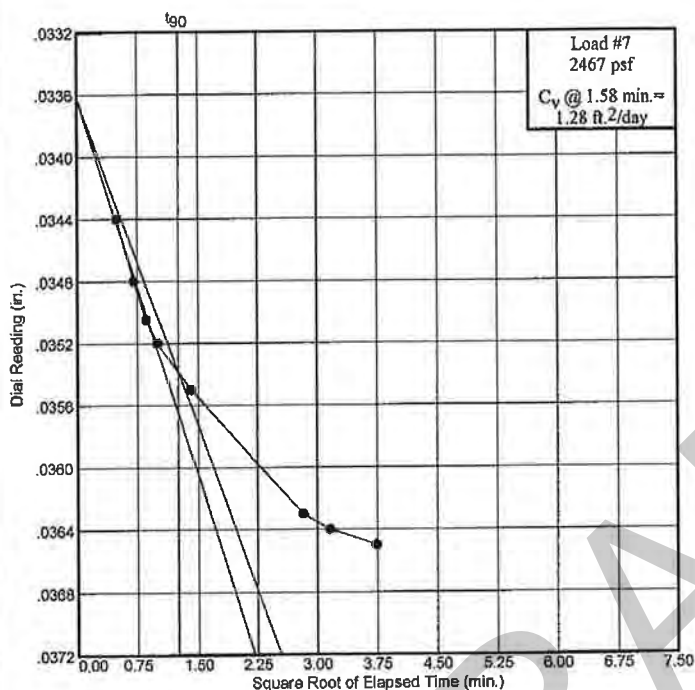
Project No.: 126026

Project: Taft Speedway Levee

Source: TB-5

Sample No.: U2

Elev./Depth: 4



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10607 Aurora Ave. Urbandale, IA 50322 (515) 270-6542

Figure

Dial Reading vs. Time

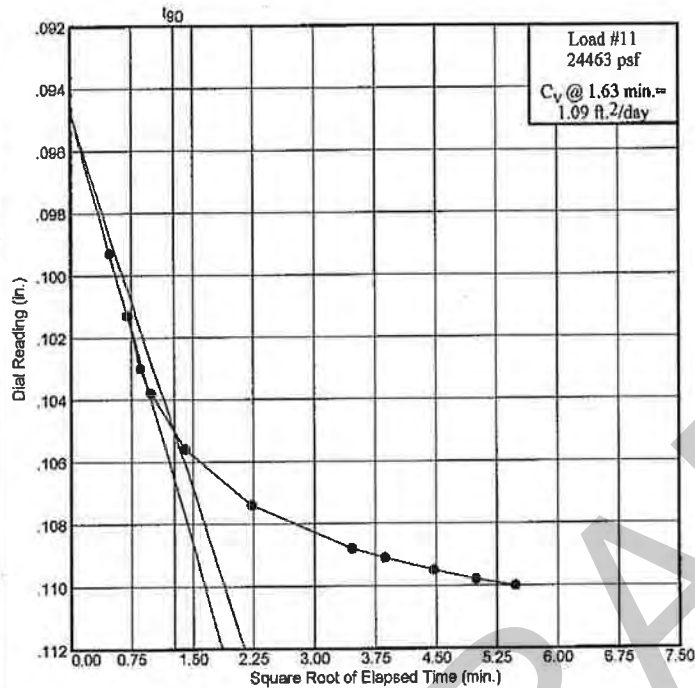
Project No.: 126026

Project: Taft Speedway Levee

Source: TB-5

Sample No.: U2

Elev./Depth: 4



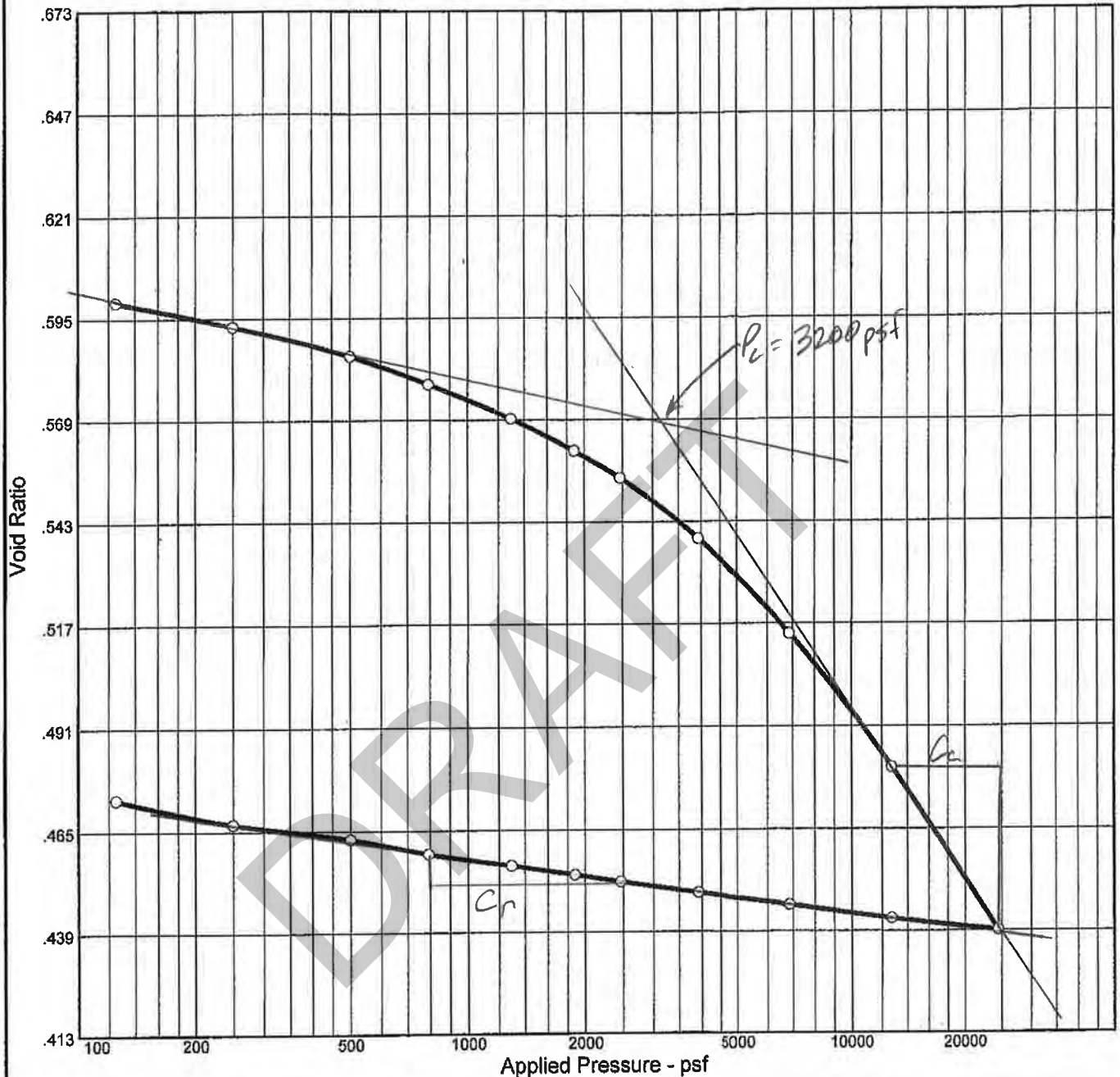
GSI

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Figure

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
88.6 %	20.1 %	104.0			2.68			0.608

MATERIAL DESCRIPTION

$$C_r = \frac{0.482 - 0.439}{\log 1550 - \log 2400} = 0.226$$

$$C_c = \frac{0.460 - 0.432}{\log 800 - \log 2500} = 0.016$$

Project No. 126026

Client: HDR Engineering, Inc.

Project: Taft Speedway Levee

Source: TB-7

Elev./Depth: 2.5

Remarks:

Dk Br Dk Gr Mot VERY SANDY
LEAN CLAY minor organic matter
Specific Gravity Assumed



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Figure

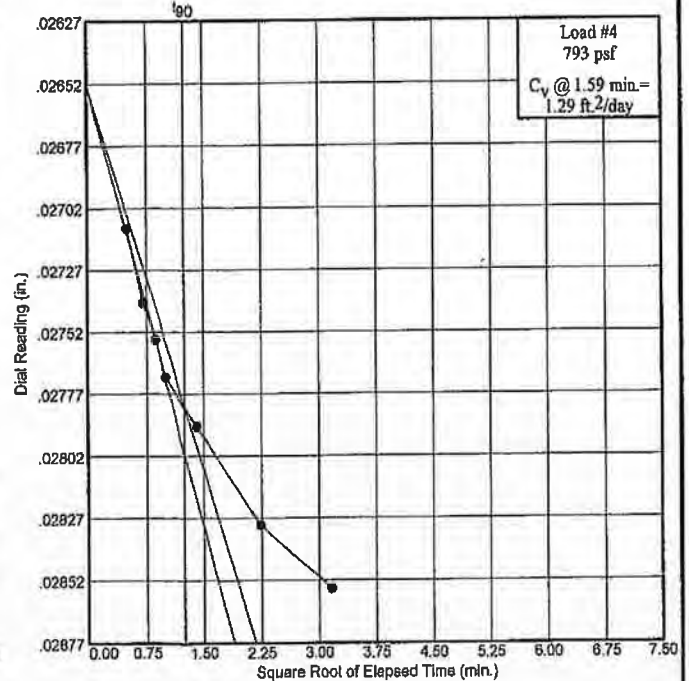
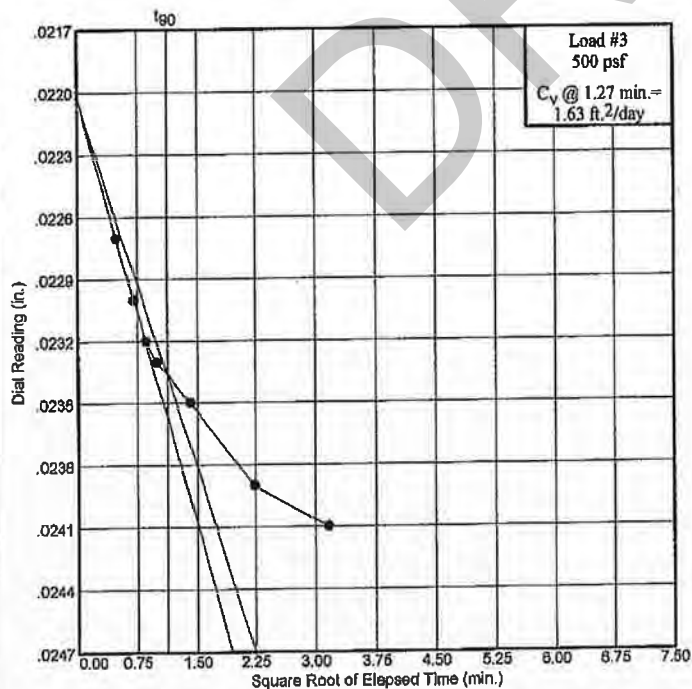
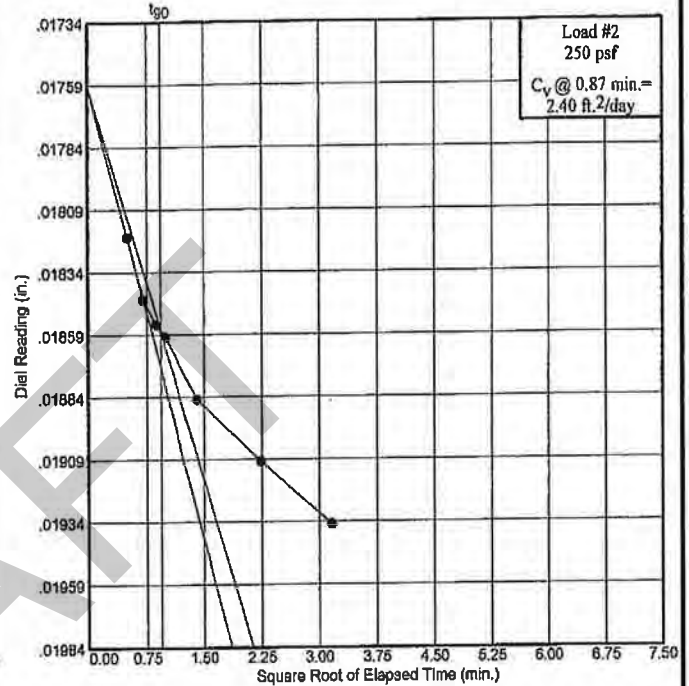
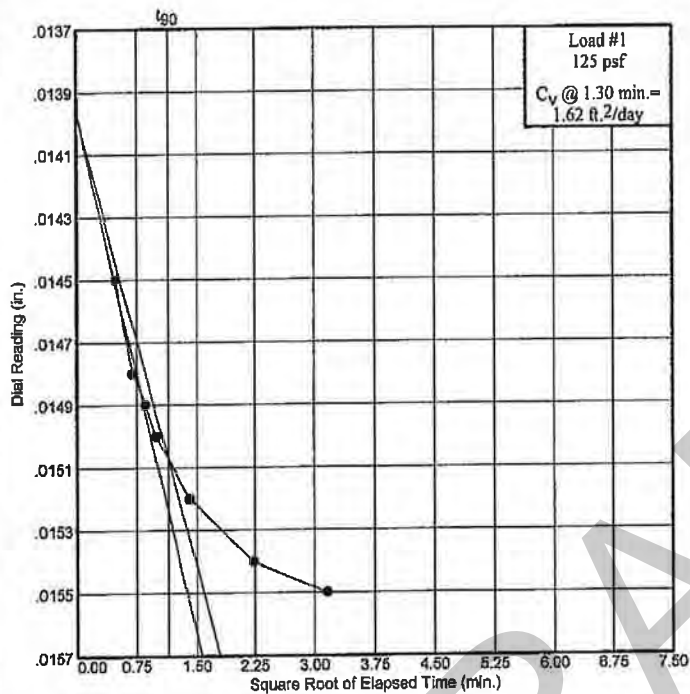
Dial Reading vs. Time

Project No.: 126026

Project: Taft Speedway Levee

Source: TB-7

Elev./Depth: 2.5



Geotechnical Services, Inc.

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Figure

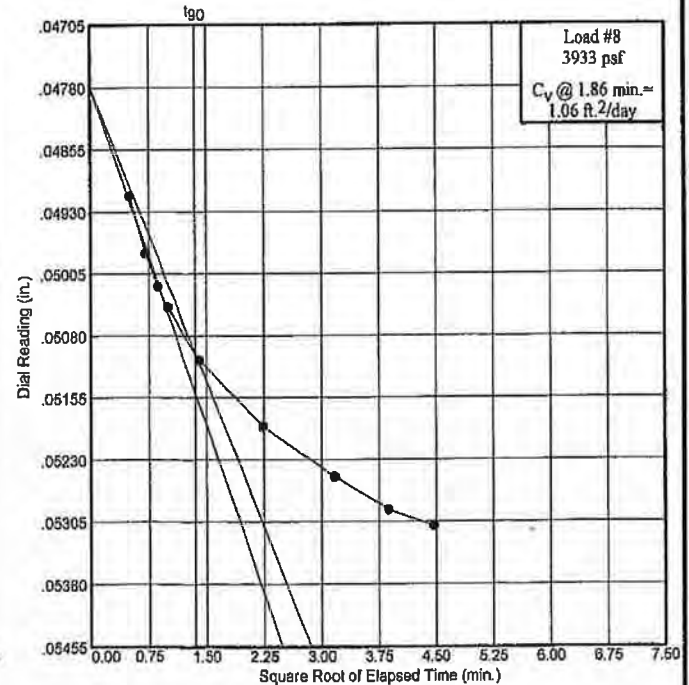
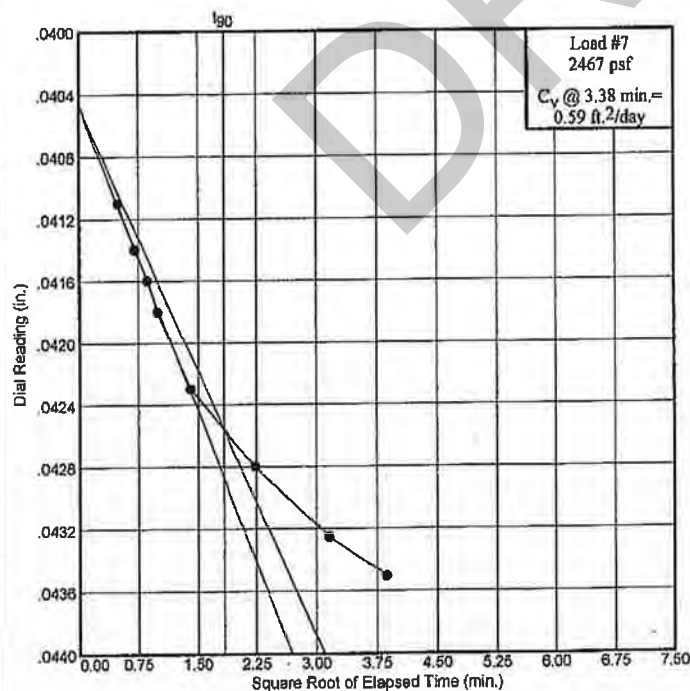
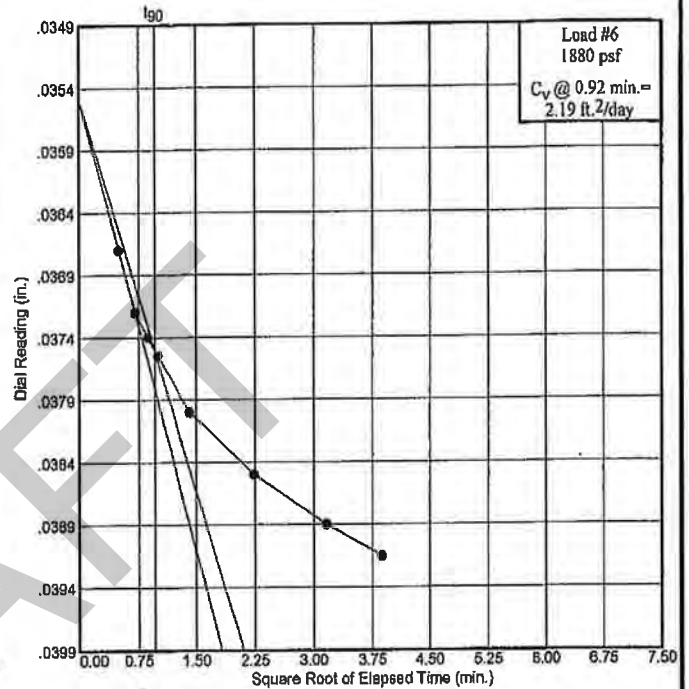
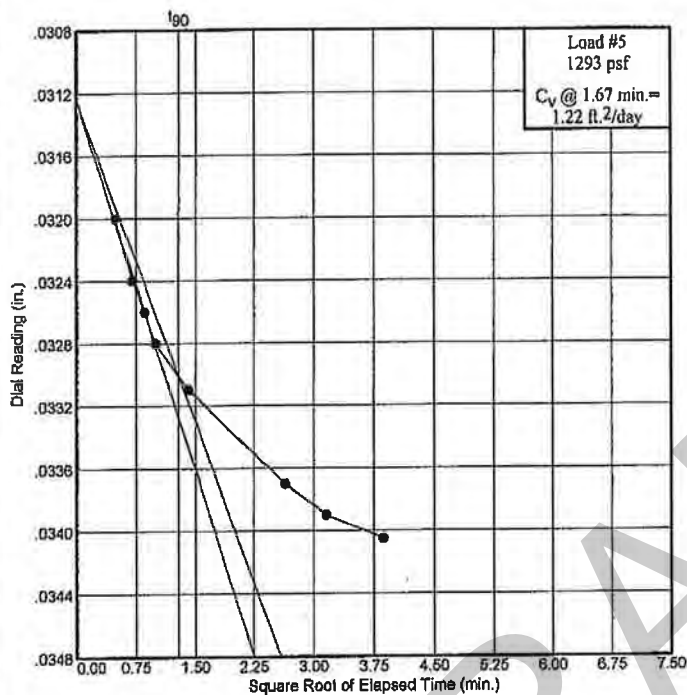
Dial Reading vs. Time

Project No.: 126026

Project: Taft Speedway Levee

Source: TB-7

Elev./Depth: 2.5



Geotechnical Services, Inc.

10607 Aurora Ave. Urbandale, IA 50322 (515) 270-6542

Figure

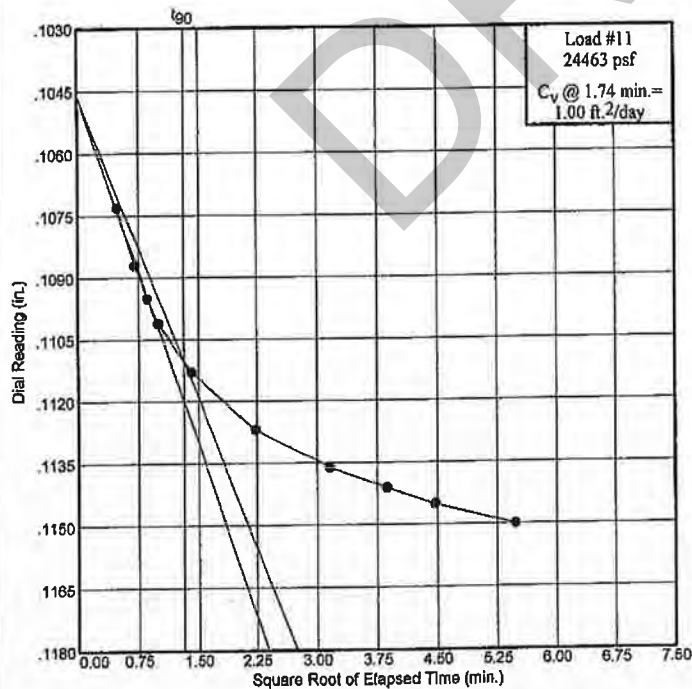
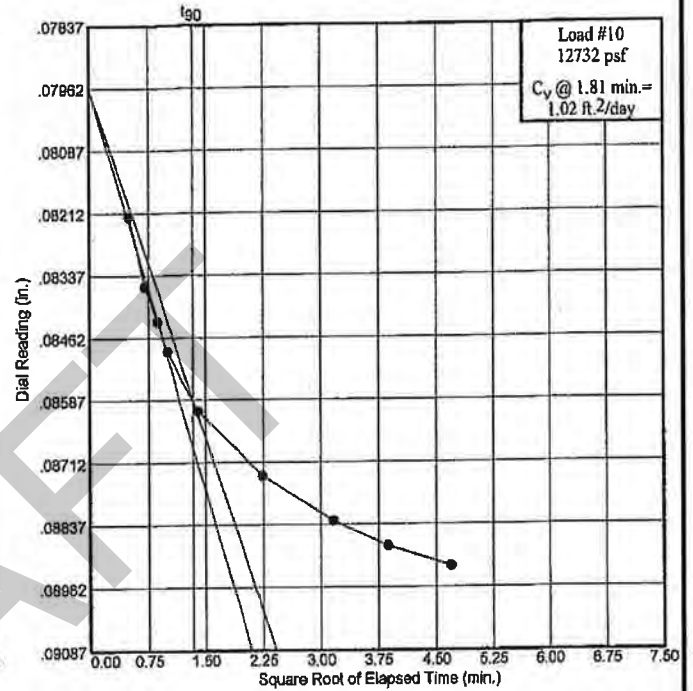
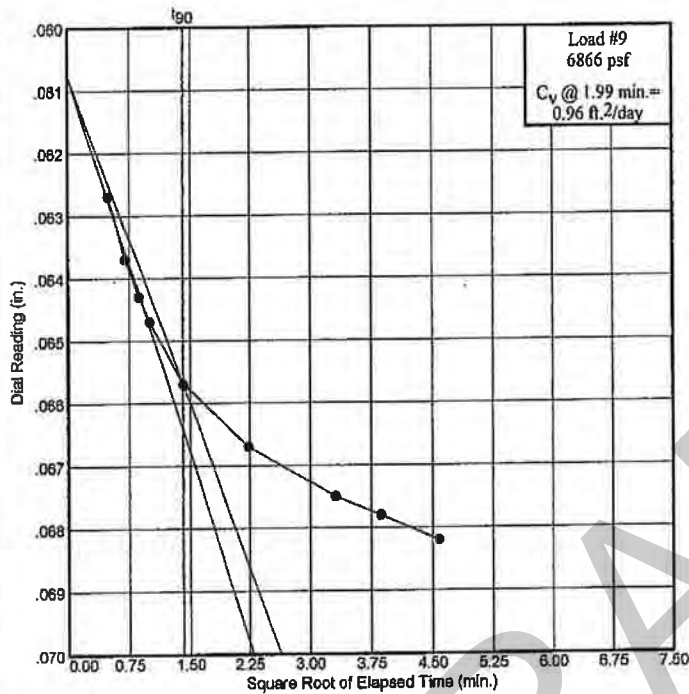
Dial Reading vs. Time

Project No.: 126026

Project: Taft Speedway Levee

Source: TB-7

Elev./Depth: 2.5



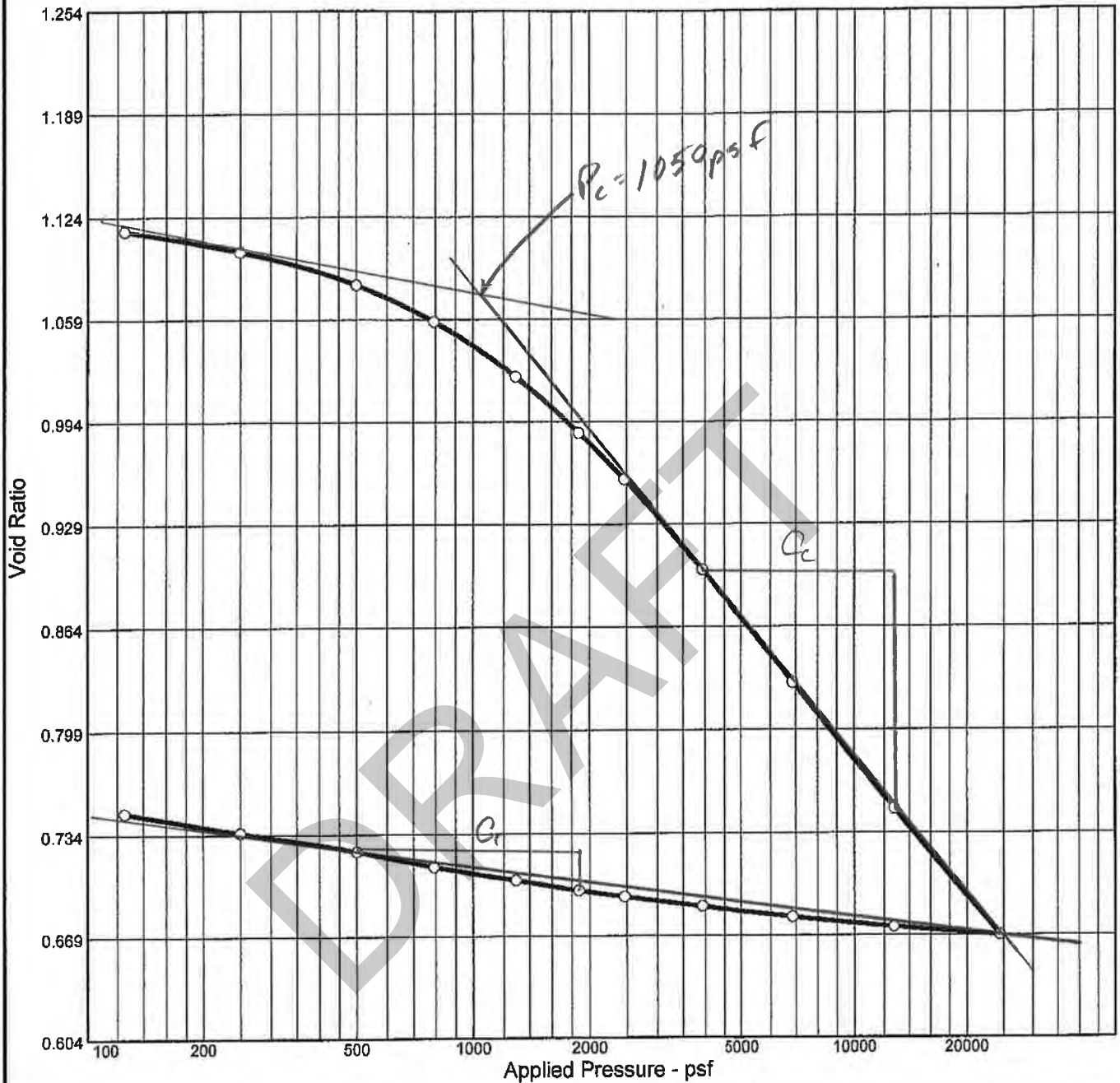
GSI

Geotechnical Services, Inc.

10607 Aurora Ave. Urbandale, IA 50322 (515) 270-6542

Figure

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
94.1 %	39.3 %	79.3			2.70			1.127

MATERIAL DESCRIPTION

$$C_c = \frac{0.90 - 0.75}{\log 4000 - \log 1250} = 0.303$$

$$C_r = \frac{0.728 - 0.695}{\log 500 - \log 1400} = 0.0569$$

Project No. 126026

Client: HDR Engineering, Inc.

Project: Taft Speedway Levee

Source: TB-10

Elev./Depth: 12.5

Remarks:

Dk Gr Blk Mot CLAYEY SILT
with organic matter
Specific Gravity Assumed



GSI

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Figure

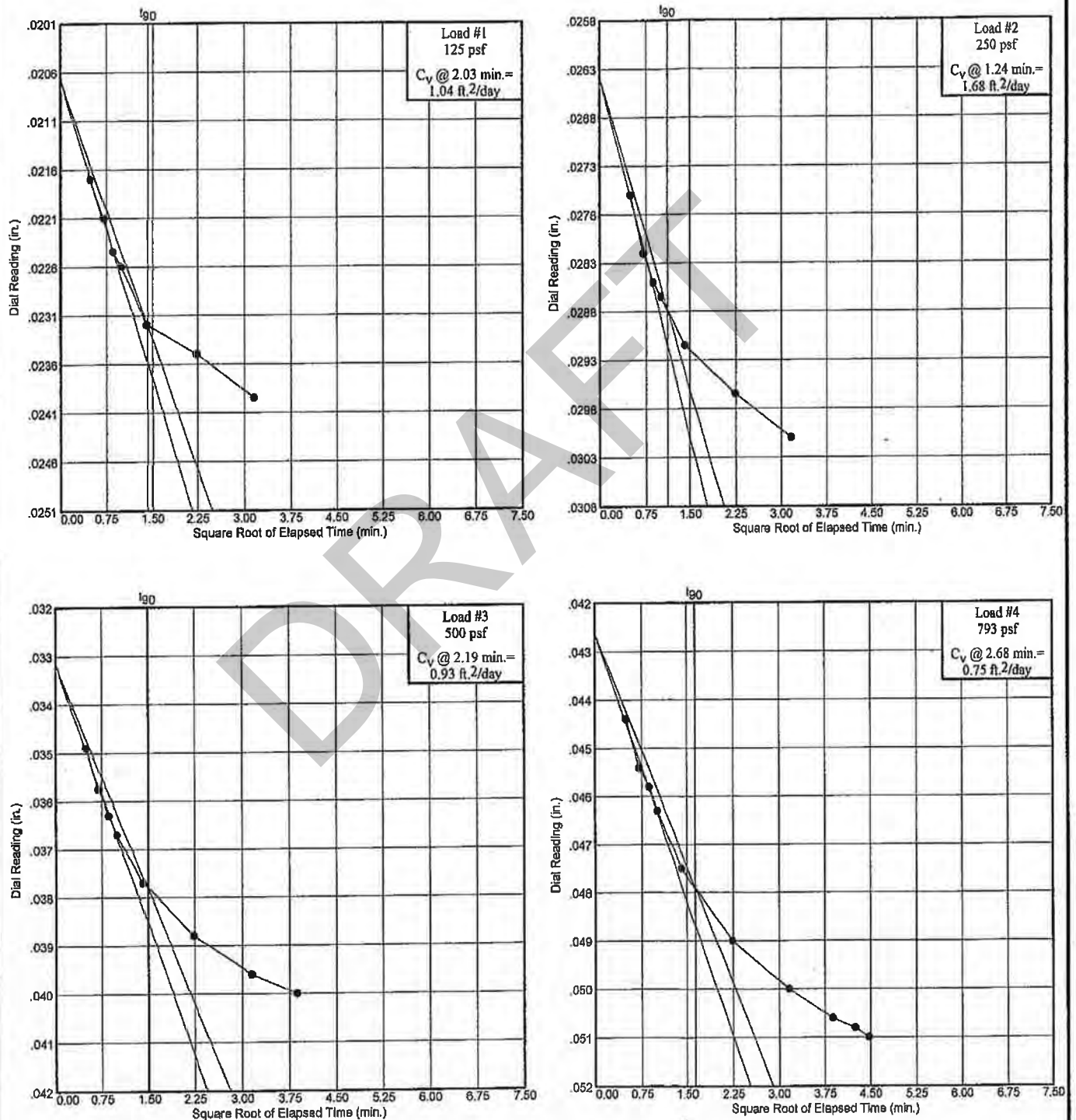
Dial Reading vs. Time

Project No.: 126026

Project: Taft Speedway Levee

Source: TB-10

Elev./Depth: 12.5



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10607 Aurora Ave. Urbandale, IA 50322 (515) 270-6542

Figure

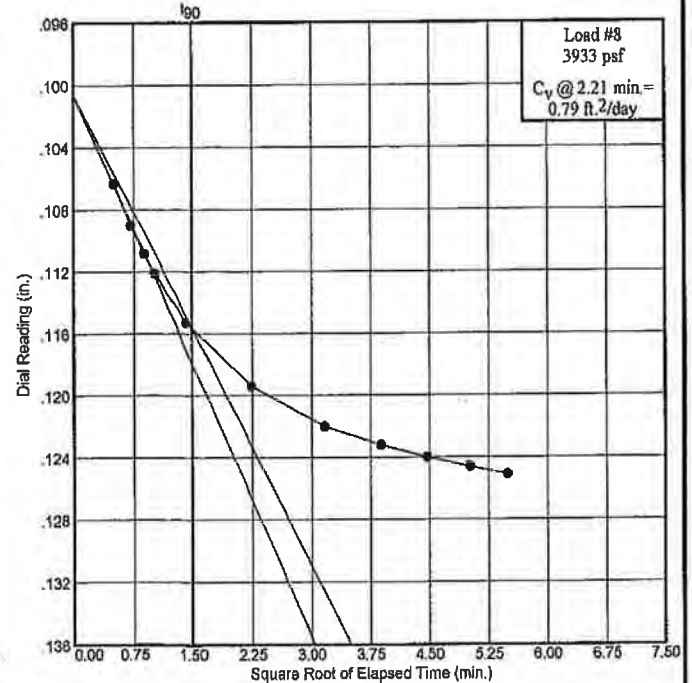
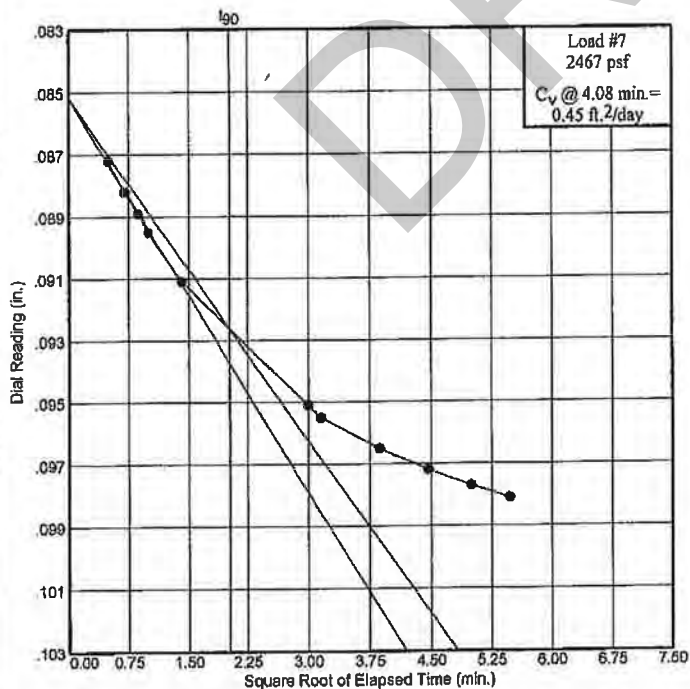
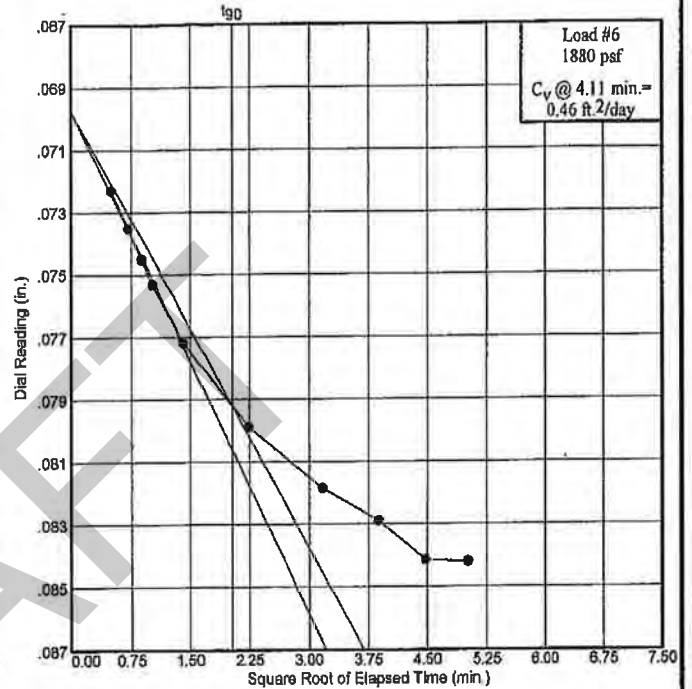
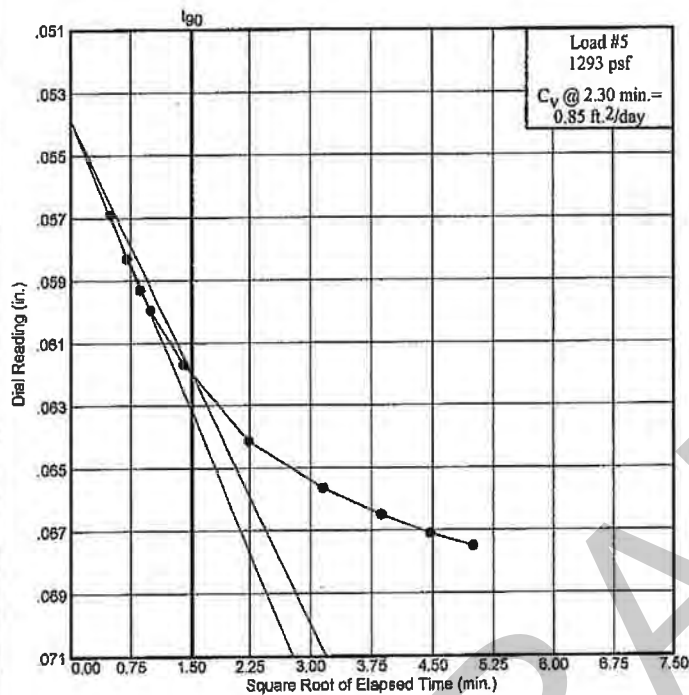
Dial Reading vs. Time

Project No.: 126026

Project: Taft Speedway Levee

Source: TB-10

Elev./Depth: 12.5



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Geotechnical Services, Inc.

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Figure

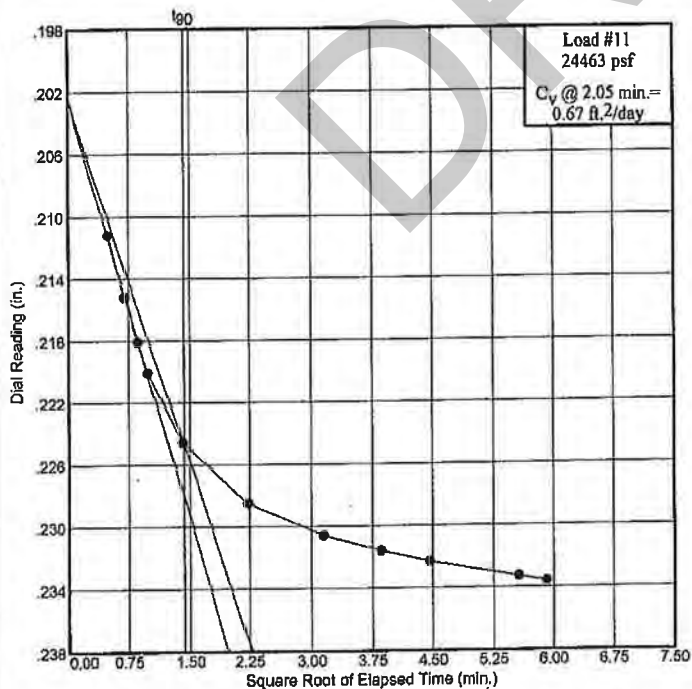
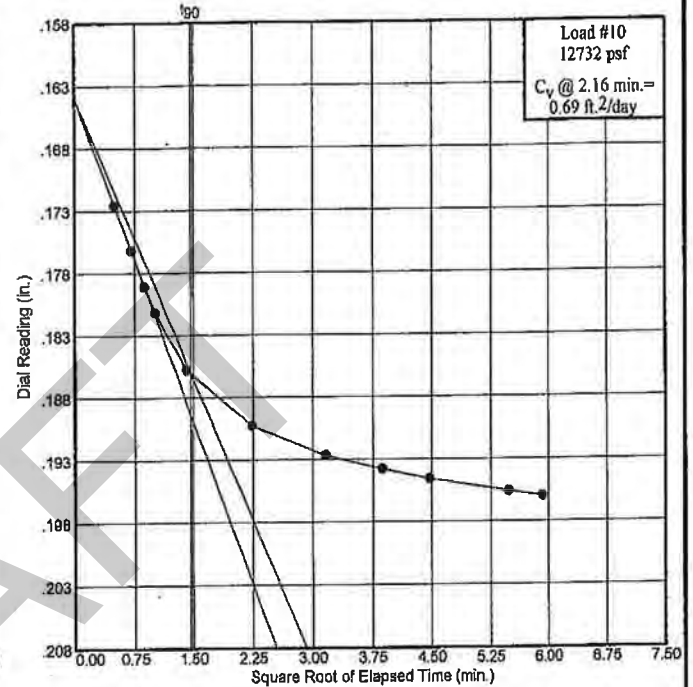
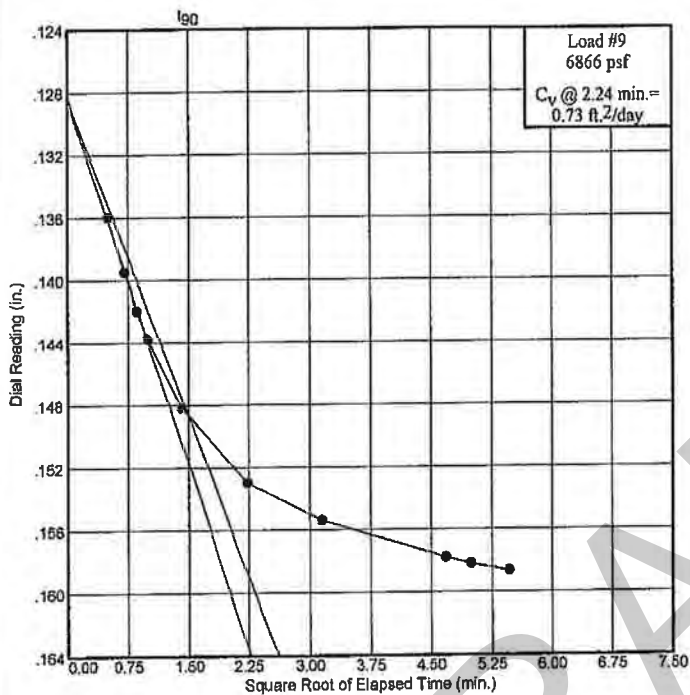
Dial Reading vs. Time

Project No.: 126026

Project: Taft Speedway Levee

Source: TB-10

Elev./Depth: 12.5



GSI

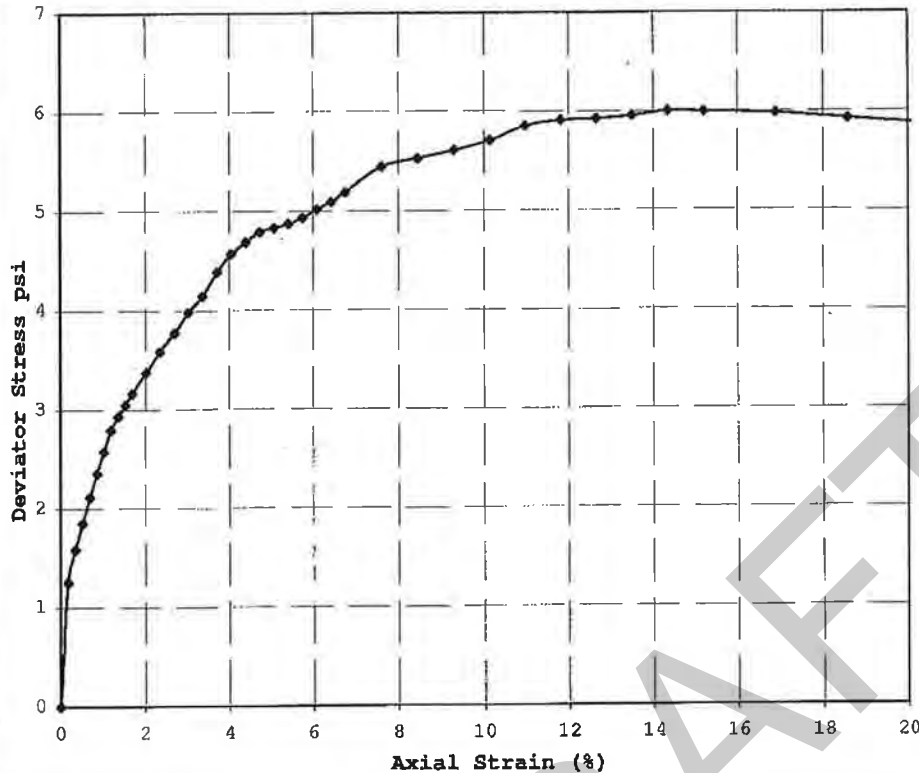
Geotechnical Services, Inc.

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Figure

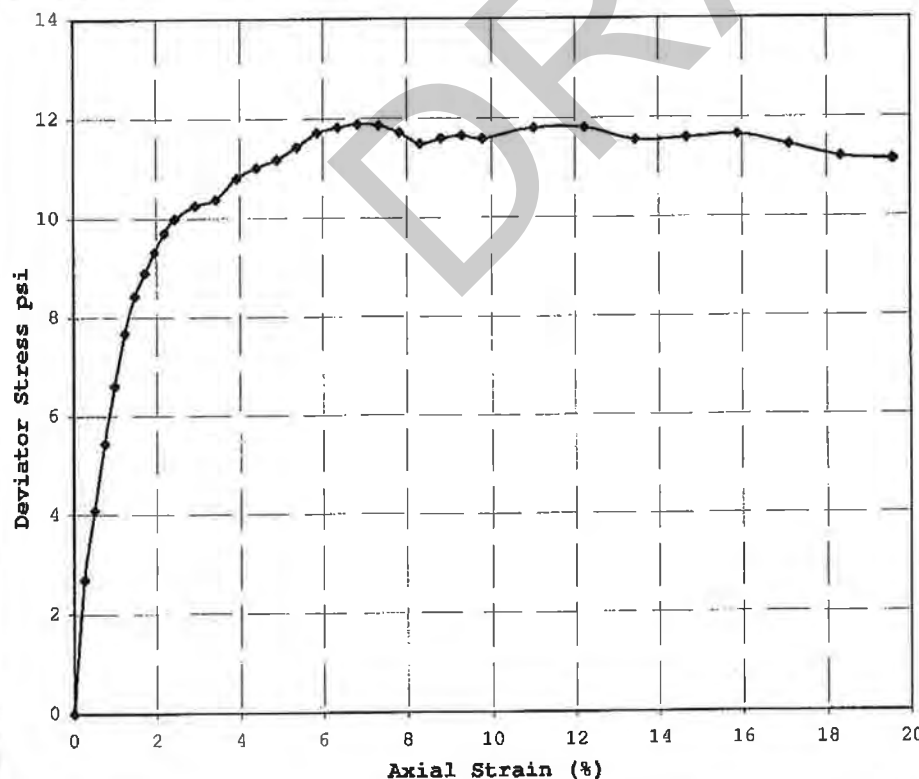
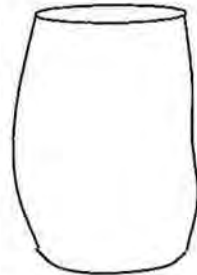
Triaxial U-U Stress/Strain Curves

Project: Taft Speedway Levee - Iowa City, IA - #126026 Job: 8389
 Client: Geotechnical Services, Inc Date: 4/11/12
 Remarks: Specimens trimmed to given sizes; Allowed to adjust under applied confining pressures for about 10 minutes.



Boring: TB-1 Depth: 12.5-14
 Sample #: 3
 Soil Type: Lean Clay w/sand grading into Sandy Lean Clay w/pockets of Silty Sand (CL)
 Strain Rate (in/min): 0.050
 Sample Type: 3T
 Dia. (in) 2.88 Ht. (in) 5.92
 Height to Diameter Ratio: 2.06
 Max Deviator Stress: 6.0 psi
 Strain at Failure (%): 14.4
 Confining Pressure: 11.0 psi
 W.C. (%): 27.6
 Yd (pcf): 97.2

Sketch of Specimen After Failure



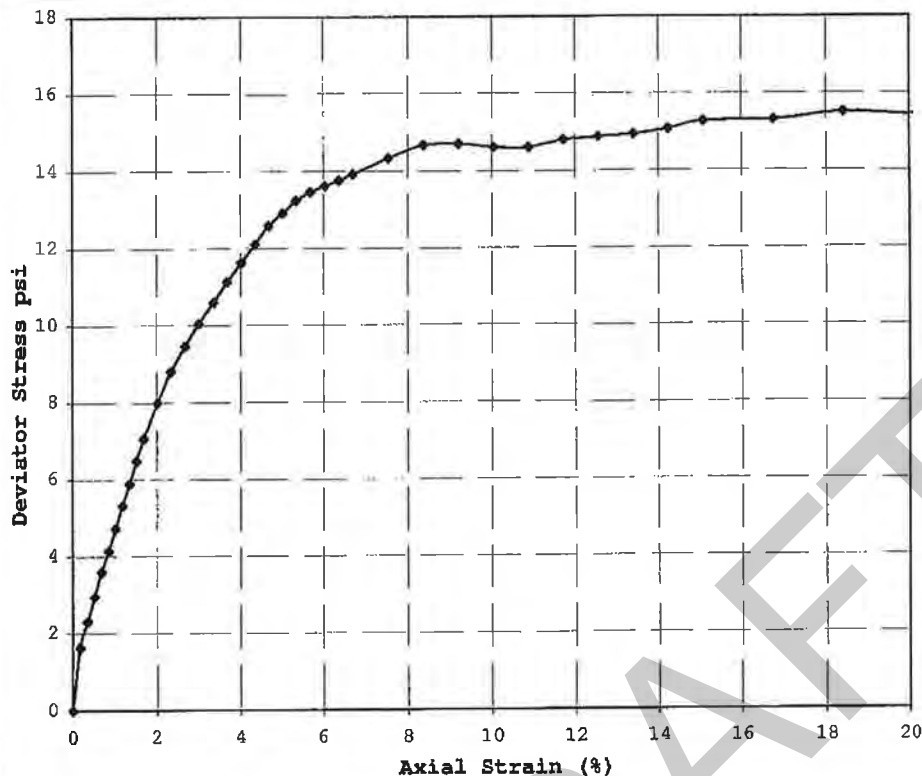
Boring: TB-2 Depth: 2.5-4
 Sample #: 1
 Soil Type: Clayey Sand (SC/SC-SM)
 Strain Rate (in/min): 0.050
 Sample Type: 3T
 Dia. (in): 1.93 Ht. (in): 4.09
 Height to Diameter Ratio: 2.12
 Max Deviator Stress: 11.9 psi
 Strain at Failure (%): 6.8
 Confining Pressure: 2.7 psi
 W.C. (%): 15.4
 Yd (pcf): 105.0

Sketch of Specimen After Failure



Triaxial U-U Stress/Strain Curves

Project: Taft Speedway Levee - Iowa City, IA - #126026 Job: 8389
 Client: Geotechnical Services, Inc Date: 4/11/12
 Remarks: Specimens trimmed to given sizes; Allowed to adjust under applied confining pressures for about 10 minutes.



Boring: TB-8 Depth: 4-5.5
 Sample #: 2

Soil Type: Lean Clay w/sand (CL)

Strain Rate (in/min): 0.050

Sample Type: 3T

Dia. (in) 2.89 Ht. (in) 5.97

Height to Diameter Ratio: 2.07

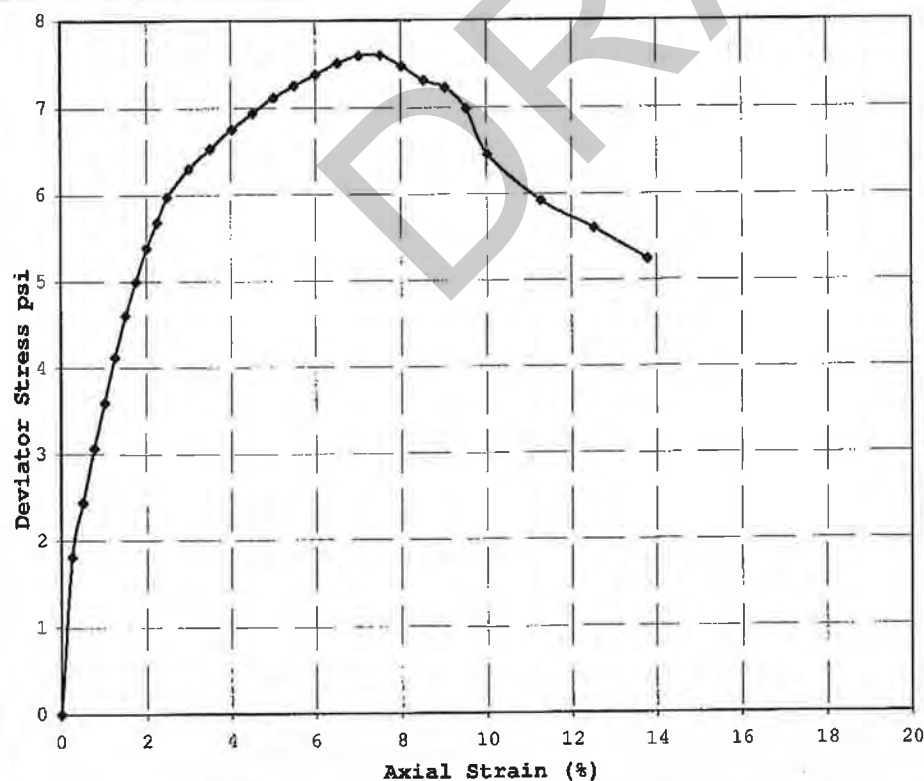
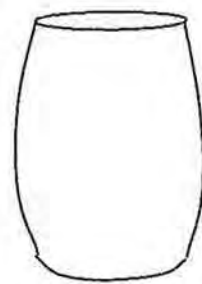
Max Deviator Stress: 15.5 psi

Strain at Failure (%): 20.0

Confining Pressure: 4.0 psi

W.C. (%) 21.5
 Yd (pcf) 104.3

Sketch of Specimen After Failure



Boring: TB-10 Depth: 12.5-14
 Sample #: 3

Soil Type: Organic Clay (OH)

Strain Rate (in/min): 0.050

Sample Type: 3T

Dia. (in): 1.94 Ht. (in): 3.99

Height to Diameter Ratio: 2.06

Max Deviator Stress: 7.6 psi

Strain at Failure (%): 7.5

Confining Pressure: 11.0 psi

W.C. (%) 46.1
 Yd (pcf) 73.2

Sketch of Specimen After Failure



Triaxial U-U Stress/Strain Curves

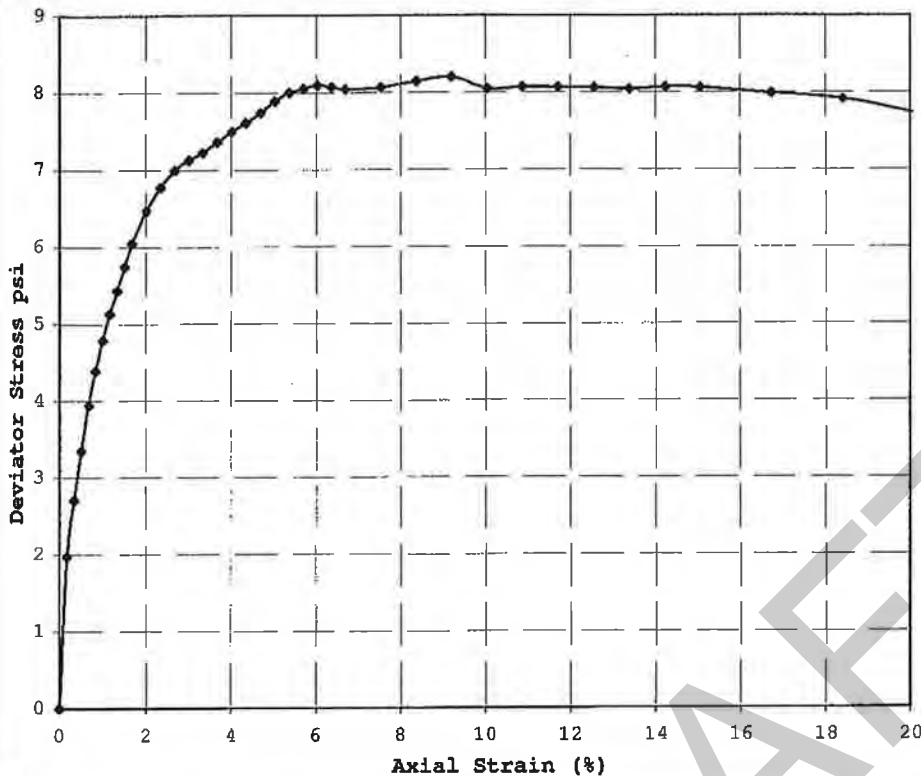
Project: Taft Speedway Levee - Iowa City, IA - #126026

Job: 8389

Client: Geotechnical Services, Inc

Date: 4/16/12

Remarks: Specimens trimmed to given sizes; Allowed to adjust under applied confining pressures for about 10 minutes.



Boring: TB10-2 Depth: 7.5-9
Sample #: UU6

Soil Type: Lean Clay w/sand (CL)

Strain Rate (in/min): 0.050

Sample Type: 3T

Dia. (in): 2.87 Ht. (in): 5.98

Height to Diameter Ratio: 2.09

Max Deviator Stress: 8.20 psi

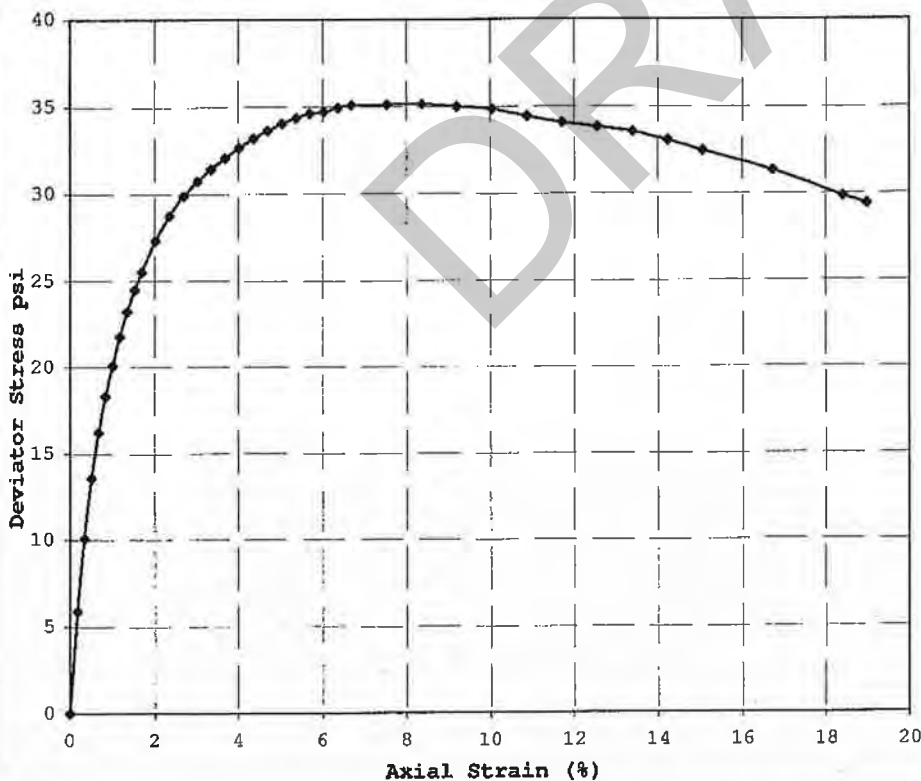
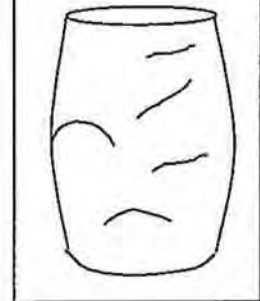
Strain at Failure (%): 9.20

Confining Pressure: 6.30 psi

W.C. (%): 26.3

Yd (pcf): 96.5

Sketch of Specimen After Failure



Boring: TB11-1 Depth: 2.5-4
Sample #: UU7

Soil Type: Lean Clay w/sand and organic material (CL)

Strain Rate (in/min): 0.050

Sample Type: 3T

Dia. (in): 2.87 Ht. (in): 5.98

Height to Diameter Ratio: 2.08

Max Deviator Stress: 35.15 psi

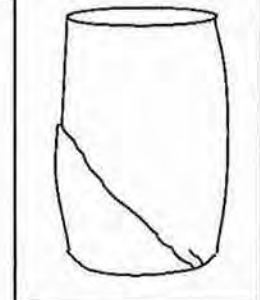
Strain at Failure (%): 8.36

Confining Pressure: 2.70 psi

W.C. (%): 25.3

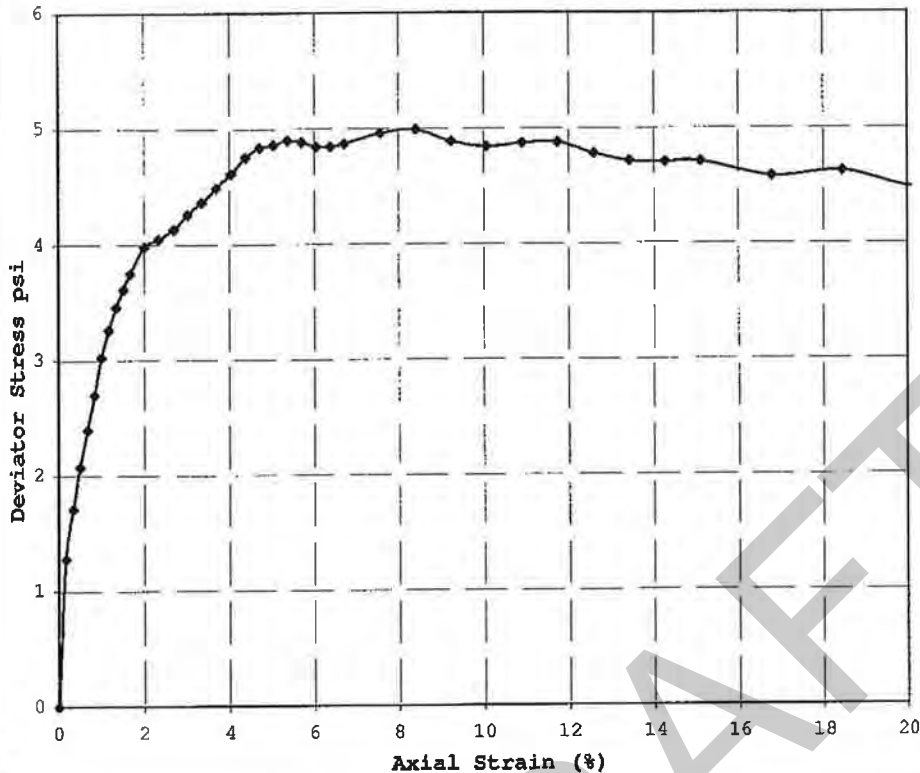
Yd (pcf): 97.4

Sketch of Specimen After Failure

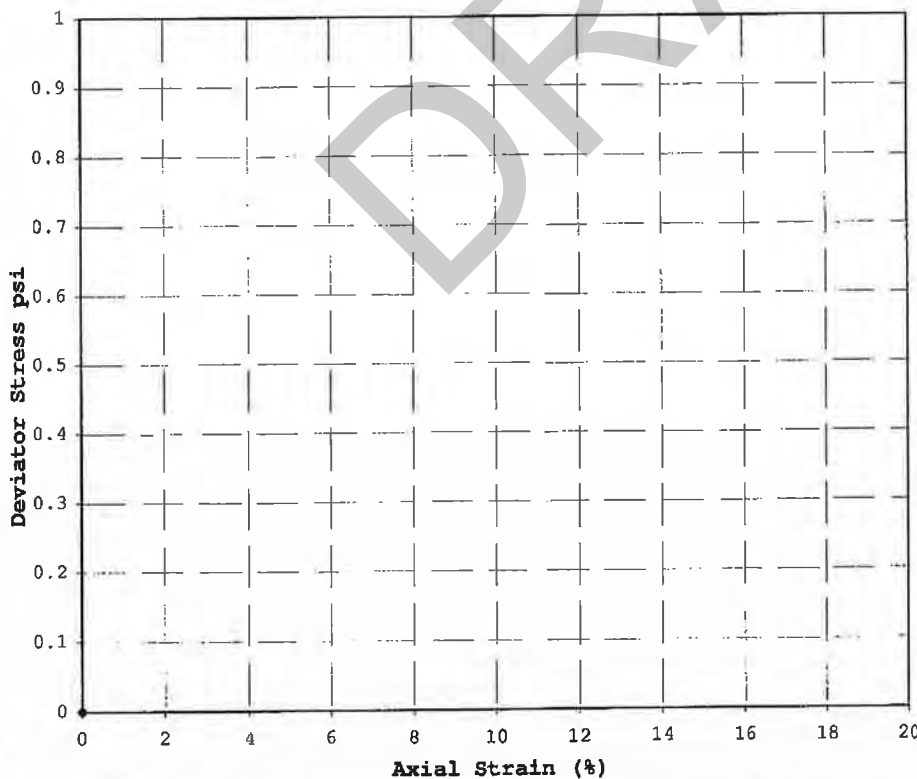
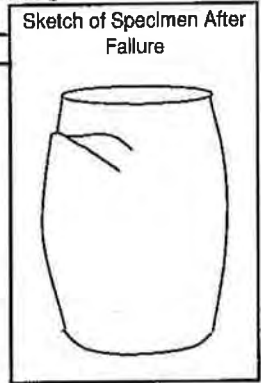


Triaxial U-U Stress/Strain Curves

Project: Taft Speedway Levee - Iowa City, IA - #126026 Job: 8389
 Client: Geotechnical Services, Inc Date: 4/11/12
 Remarks: Specimens trimmed to given sizes; Allowed to adjust under applied confining pressures for about 10 minutes.



Boring: TB-11 Depth: 7.5-9
 Sample #: _____
 Soil Type: Lean Clay w/organic material (CL/OL)
 Strain Rate (in/min): 0.050
 Sample Type: 3T
 Dia. (in) 2.88 Ht. (in) 5.96
 Height to Diameter Ratio: 2.07
 Max Deviator Stress: 5.0 psi
 Strain at Failure (%): 8.4
 Confining Pressure: 6.3 psi
 W.C. (%): 38.5
 Yd (pcf): 81.8



Boring: _____ Depth: _____
 Sample #: _____
 Soil Type: _____
 Strain Rate (in/min): _____
 Sample Type: _____
 Dia. (in): _____ Ht. (in): _____
 Height to Diameter Ratio: _____
 Max Deviator Stress: _____ tsf
 Strain at Failure (%): _____
 Confining Pressure: _____ tsf
 W.C. (%): _____
 Yd (pcf): _____



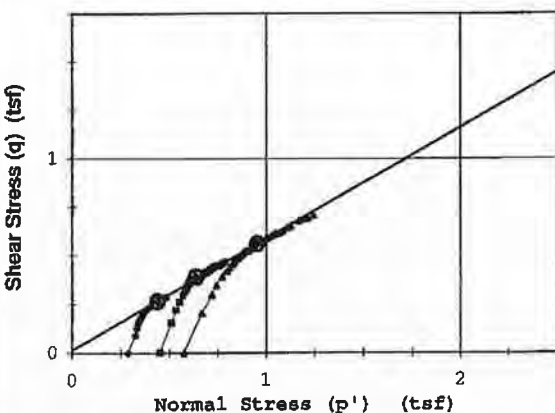
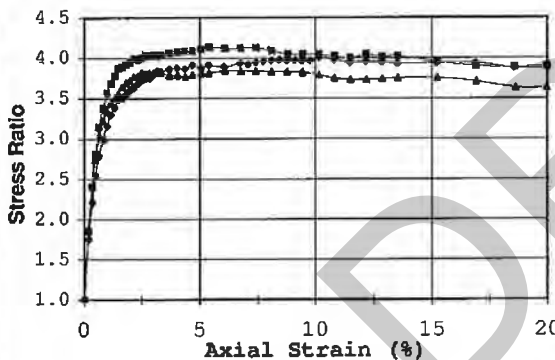
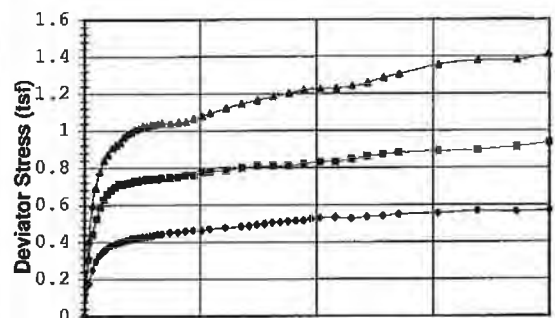
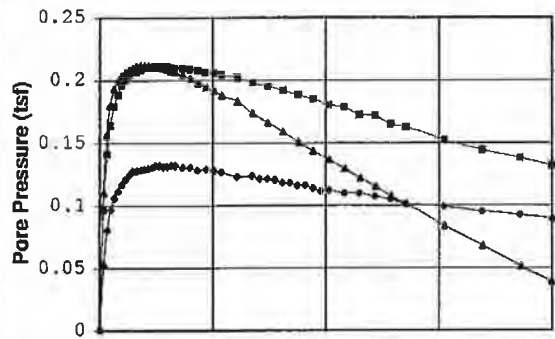
TRIAXIAL TEST ASTM: D 4767

Job No. 8389

Date: 4/20/12

Project: Taft Speedway Levee - Iowa City, IA - #126026
 Boring #: TB-7 Sample #: Type: 3T
 Soil Type: Sandy Silty Clay (CL-ML)

Depth (ft): 7.5-9



Rupture Envelope at Failure
 $\alpha = 29.8^\circ$ $a = 0.0$ (tsf)



Failure Criterion:

Max. Stress Ratio

Angle of internal friction, $\phi' = 34.9^\circ$

Apparent Cohesion, $c' = 0.02$ (tsf)

Test Date: 4/5/12

Test Type: CU w/pp

Strain Rate (in/min): 0.00148

Strain Rate (%/min): 0.050

Liquid Limit:

Plastic Limit:

Plasticity Index:

Spec. Gravity (Assumed): 2.68

Before Consolidation

Diameter (in)

Height (in)

Water Content (%)

Dry Density (pcf)

Void Ratio

After Consolidation

Diameter (in)

Height (in)

Water Content (%)

Dry Density (pcf)

Void Ratio

Back Pressure (tsf)

Minor Principal Stress (tsf)

Max. Deviator Stress (tsf)

Ultimate Deviator Stress (tsf)

Deviator Stress at Failure (tsf)

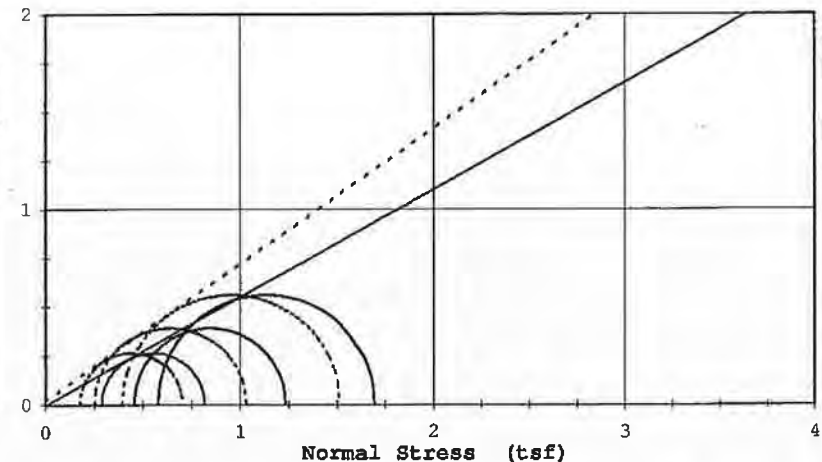
Max. Pore Pressure Buildup (tsf)

Pore Pressure Parameter "B"

Pot. Axial Strain at Failure

"These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design"

Remarks: Radial drainage strips applied to trimmed specimen; Saturated, backpressured until "B" response was 0.95 to 1.00; Consolidated; All Drainage valves closed and immediately sheared.



Effective ϕ' : 34.9°

$c' = 0.02$ (tsf)

Total ϕ : 28.8°

$c = 0.00$ (tsf)

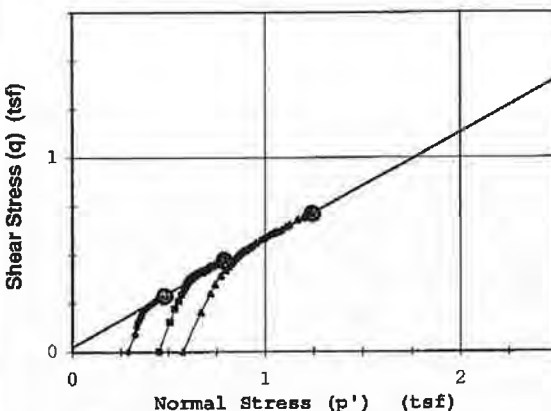
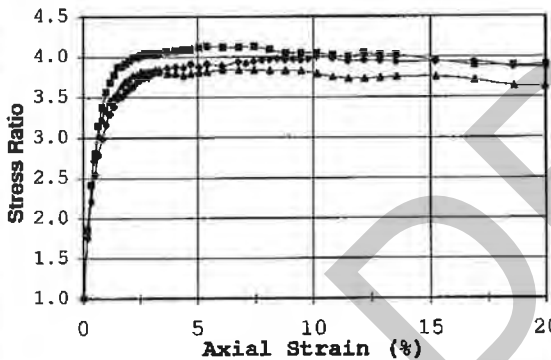
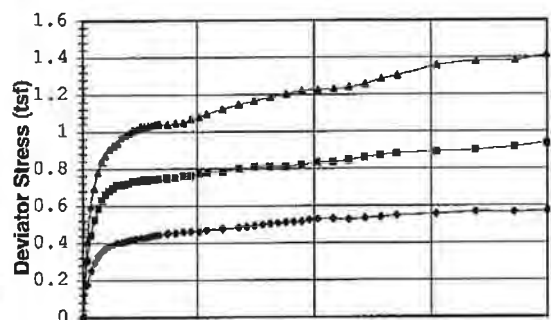
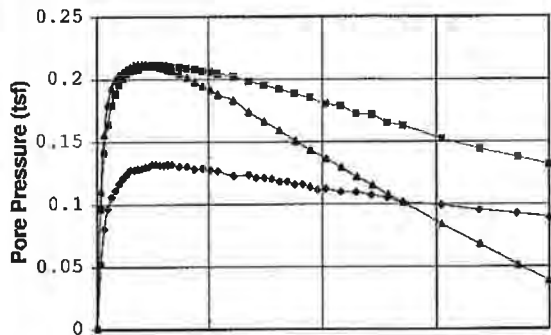
TRIAXIAL TEST ASTM: D 4767

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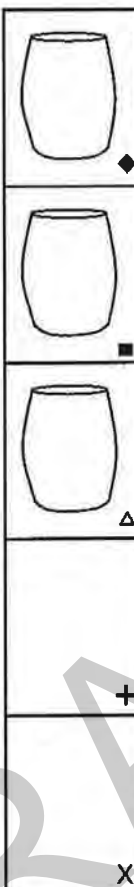
Date: 4/20/12

Project: Taft Speedway Levee - Iowa City, IA - #126026
 Boring #: TB-7 Sample #: Type: 3T
 Soil Type: Sandy Silty Clay (CL-ML)

Depth (ft): 7.5-9



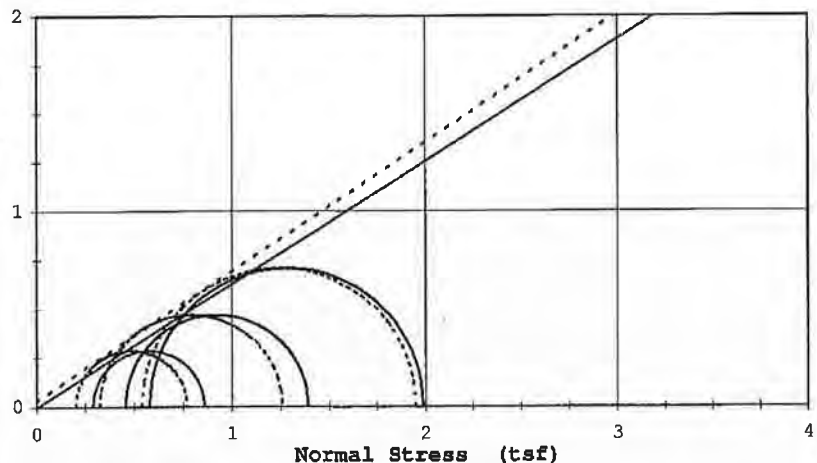
Rupture Envelope at Failure
 $\alpha = 28.9^\circ$ $a = 0.0$ (tsf)



Failure Criterion:		Max. Deviator Stress				
Angle of internal friction, $\phi' =$		33.5°				
Apparent Cohesion, $c' =$		0.03 (tsf)				
Test Date: 4/5/12		Liquid Limit:				
Test Type: CU w/pp		Plastic Limit:				
Strain Rate (in/min): 0.00148		Plasticity Index:				
Strain Rate (%/min): 0.050		Spec. Gravity (Assumed): 2.68				
Before Consolidation		A	B	C	D	E
Diameter (in)		1.43	1.43	1.44		
Height (in)		2.97	2.96	2.96		
Water Content (%)		24.6	22.7	22.2		
Dry Density (pcf)		98.3	99.6	99.2		
Void Ratio		0.70	0.68	0.69		
After Consolidation						
Diameter (in)		1.43	1.42	1.43		
Height (in)		2.96	2.96	2.95		
Water Content (%)		25.5	24.5	25.0		
Dry Density (pcf)		99.3	101.0	100.2		
Void Ratio		0.68	0.66	0.67		
Back Pressure (tsf)		5.8	5.8	5.8		
Minor Principal Stress (tsf)		0.29	0.45	0.58		
Max. Deviator Stress (tsf)		0.57	0.93	1.41		
Ultimate Deviator Stress (tsf)		0.57	0.93	1.41		
Deviator Stress at Failure (tsf)		0.57	0.93	1.41		
Max. Pore Pressure Buildup (tsf)		0.13	0.21	0.21		
Pore Pressure Parameter "B"		1.0	1.0	1.0		
Pct. Axial Strain at Failure		20.0	20.0	20.0		

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Remarks: Radial drainage strips applied to trimmed specimen; Saturated, backpressured until "B" response was 0.95 to 1.00; Consolidated; All Drainage valves closed and immediately sheared.



Effective ϕ' : 33.5° $c' =$ 0.03 (tsf)
 Total ϕ : 32.1° $c =$ 0.00 (tsf)

TRIAXIAL TEST ASTM: D 4767

Job No. 8389

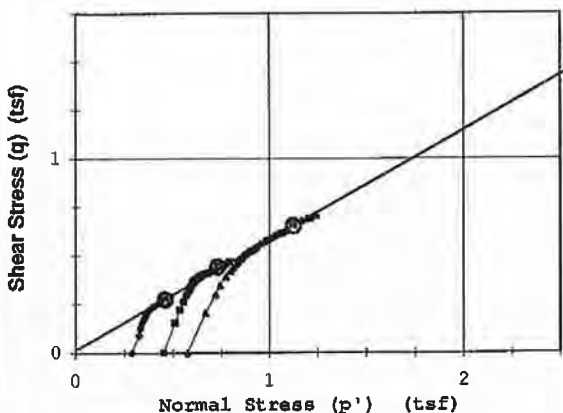
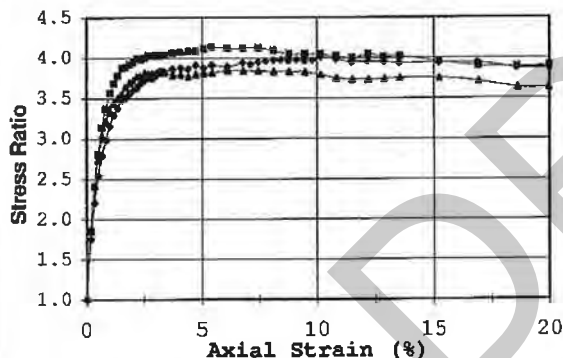
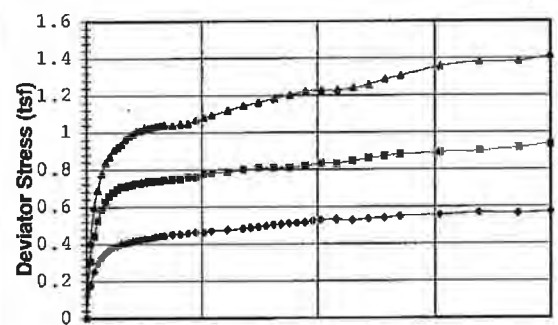
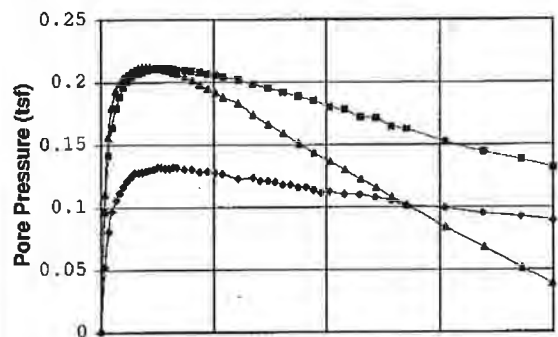
Date: 4/20/12

Project: Taft Speedway Levee - Iowa City, IA - #126026

Boring #: TB-7 Sample #: Type: 3T

Soil Type: Sandy Silty Clay (CL-ML)

Depth (ft): 7.5-9



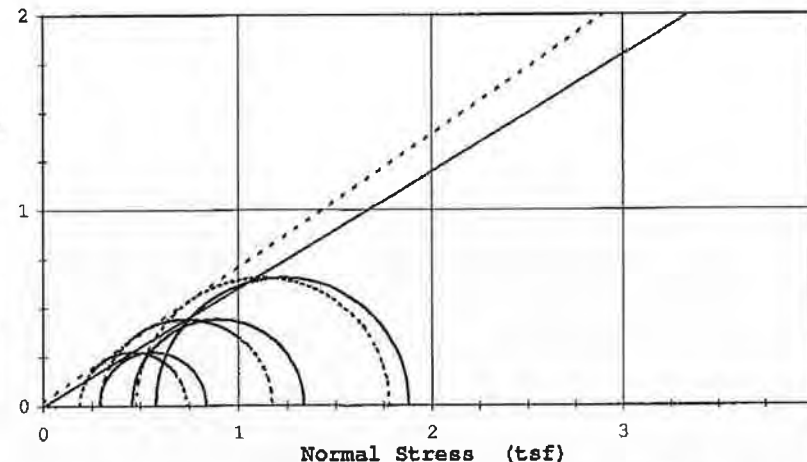
Rupture Envelope at Failure
 $\alpha = 29.5^\circ$ $a = 0.0$ (tsf)



Failure Criterion:		Given Strain of: 15%				
Angle of internal friction, $\phi' =$		34.4 °				
Apparent Cohesion, $c' =$		0.02 (tsf)				
Test Date:	4/5/12	Liquid Limit:				
Test Type:	CU w/pp	Plastic Limit:				
Strain Rate (in/min):	0.00148	Plasticity Index:				
Strain Rate (%/min):	0.050	Spec. Gravity (Assumed): 2.68				
Before Consolidation		A	B	C	D	E
Diameter (in)		1.43	1.43	1.44		
Height (in)		2.97	2.96	2.96		
Water Content (%)		24.6	22.7	22.2		
Dry Density (pcf)		98.3	99.6	99.2		
Void Ratio		0.70	0.68	0.69		
After Consolidation						
Diameter (in)		1.43	1.42	1.43		
Height (in)		2.96	2.96	2.95		
Water Content (%)		25.5	24.5	25.0		
Dry Density (pcf)		99.3	101.0	100.2		
Void Ratio		0.68	0.66	0.67		
Back Pressure (tsf)		5.8	5.8	5.8		
Minor Principal Stress (tsf)		0.29	0.45	0.58		
Max. Deviator Stress (tsf)		0.57	0.93	1.41		
Ultimate Deviator Stress (tsf)		0.57	0.93	1.41		
Deviator Stress at Failure (tsf)		0.55	0.88	1.30		
Max. Pore Pressure Buildup (tsf)		0.13	0.21	0.21		
Pore Pressure Parameter "B"		1.0	1.0	1.0		
Pct. Axial Strain at Failure		15.0	15.0	15.0		

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Remarks: Radial drainage strips applied to trimmed specimen; Saturated, backpressured until "B" response was 0.95 to 1.00; Consolidated; All Drainage valves closed and immediately sheared.



Effective $\phi' = 34.4^\circ$ $c' = 0.02$ (tsf)
 Total $\phi = 30.9^\circ$ $c = 0.00$ (tsf)

TRIAXIAL TEST ASTM: D 4767

Job No. 8389

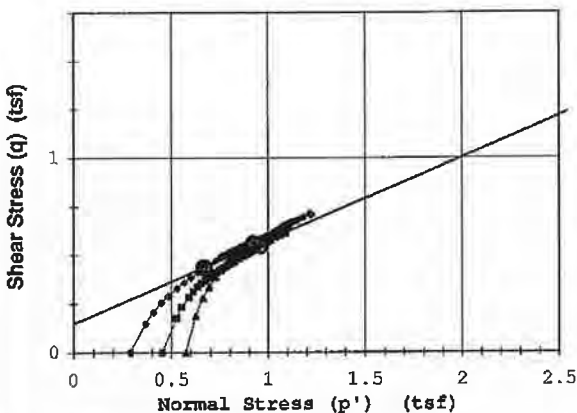
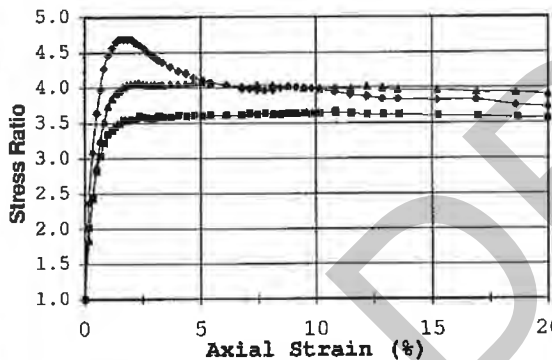
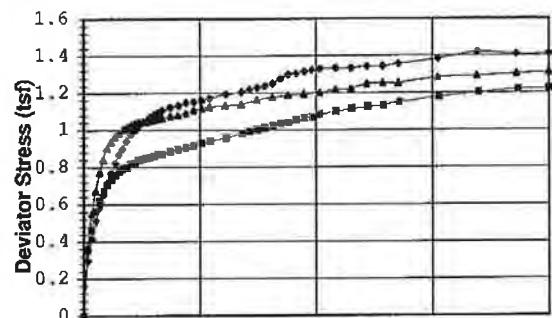
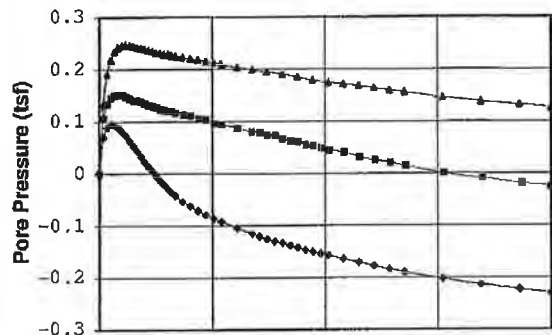
Date: 4/20/12

Project: Taft Speedway Levee - Iowa City, IA - #126026

Boring #: TB-1 Sample #: 2 Type: 3T

Depth (ft): 7.5-9

Soil Type: Lean Clay w/sand (CL/CL-ML)



Rupture Envelope at Failure
 $\alpha = 23.1^\circ$ $a = 0.2$ (tsf)

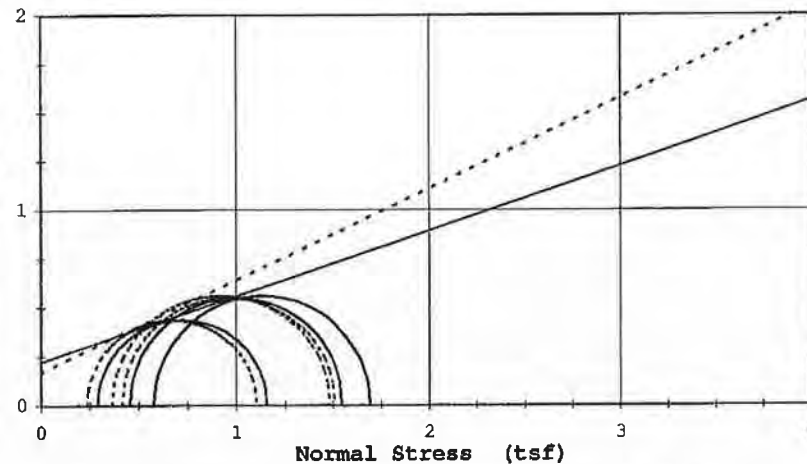


Failure Criterion:		Max. Stress Ratio				
Angle of internal friction, ϕ' =		25.2 °				
Apparent Cohesion, c' =		0.17 (tsf)				
Test Date:	4/5/12	Liquid Limit:				
Test Type:	CU w/pp	Plastic Limit:				
Strain Rate (in/min):	0.00148	Plasticity Index:				
Strain Rate (%/min):	0.050	Spec. Gravity (Assumed): 2.68				
Before Consolidation		A	B	C	D	E
Diameter (in)		1.44	1.44	1.43		
Height (in)		2.96	2.96	2.96		
Water Content (%)		15.3	24.0	24.6		
Dry Density (pcf)		104.6	99.7	97.9		
Void Ratio		0.60	0.68	0.71		
After Consolidation						
Diameter (in)		1.43	1.43	1.42		
Height (in)		2.96	2.94	2.96		
Water Content (%)		22.0	24.5	25.6		
Dry Density (pcf)		105.2	100.9	99.3		
Void Ratio		0.59	0.66	0.69		
Back Pressure (tsf)		5.8	5.8	5.8		
Minor Principal Stress (tsf)		0.29	0.45	0.58		
Max. Deviator Stress (tsf)		1.42	1.22	1.31		
Ultimate Deviator Stress (tsf)		1.41	1.22	1.31		
Deviator Stress at Failure (tsf)		0.87	1.10	1.12		
Max. Pore Pressure Buildup (tsf)		0.09	0.15	0.25		
Pore Pressure Parameter "B"		1.0	1.0	1.0		
Pct. Axial Strain at Failure		1.5	10.9	5.1		

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Remarks: Radial drainage strips applied to trimmed specimen; Saturated, backpressured until "B" response was 0.95 to 1.00; Consolidated; All Drainage valves closed and immediately sheared.

Specimens varied in density significantly. Specimen A was not used in determination of friction angle.



Effective ϕ' : 25.2° $c' = 0.17$ (tsf)
 Total ϕ : 18.5° $c = 0.22$ (tsf)

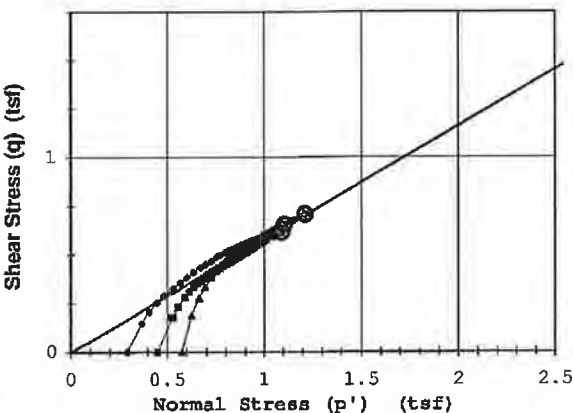
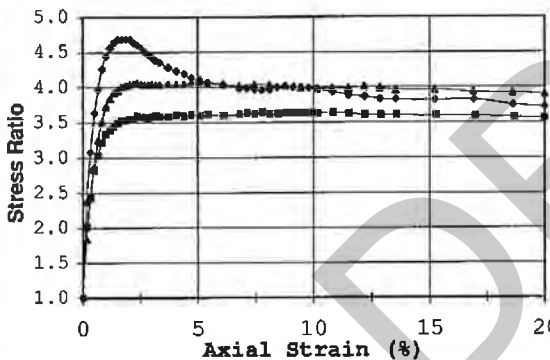
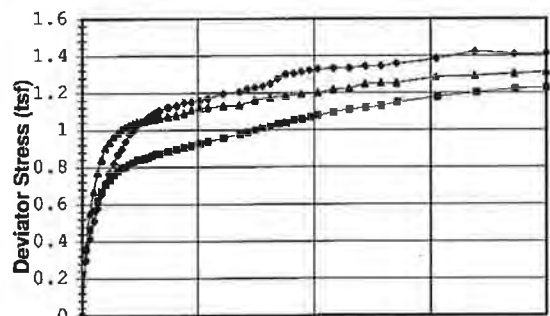
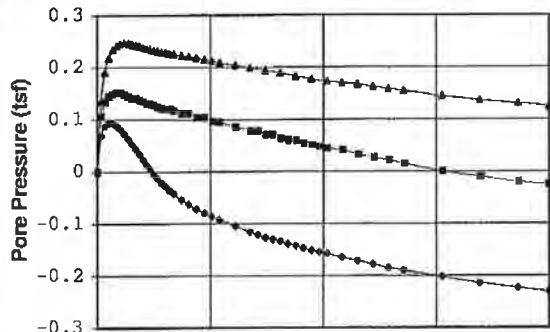
TRIAXIAL TEST ASTM: D 4767

Job No. 8389

Date: 4/20/12

Project: Taft Speedway Levee - Iowa City, IA - #126026
 Boring #: TB-1 Sample #: 2 Type: 3T
 Soil Type: Lean Clay w/sand (CL/CL-ML)

Depth (ft): 7.5-9



Rupture Envelope at Failure
 $\alpha = 30.1^\circ$ $a = 0.0$ (tsf)

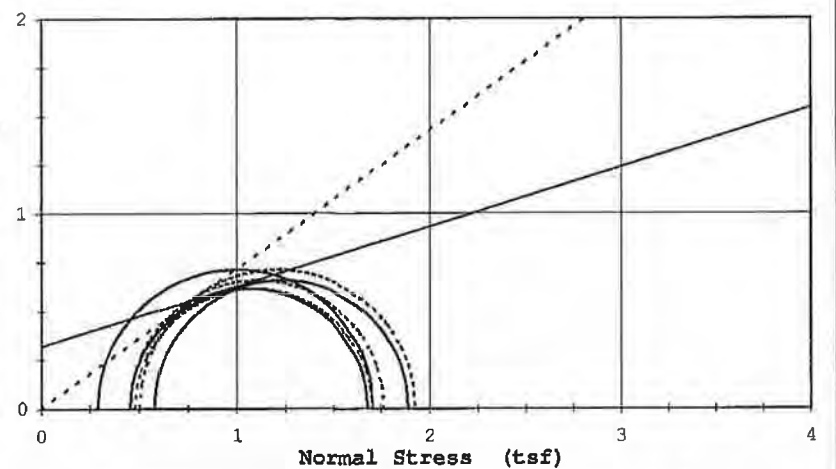


Failure Criterion:		Max. Deviator Stress				
Angle of internal friction, $\phi' = 35.5^\circ$						
Apparent Cohesion, $c' = 0.00$ (tsf)						
Test Date: 4/5/12	Liquid Limit:					
Test Type: CU w/pp	Plastic Limit:					
Strain Rate (in/min): 0.00148	Plasticity Index:					
Strain Rate (%/min): 0.050	Spec. Gravity (Assumed):		2.68			
Before Consolidation		A	B	C	D	E
Diameter (in)		1.44	1.44	1.43		
Height (in)		2.96	2.96	2.96		
Water Content (%)		15.3	24.0	24.6		
Dry Density (pcf)		104.6	99.7	97.9		
Void Ratio		0.60	0.68	0.71		
After Consolidation		A	B	C	D	E
Diameter (in)		1.43	1.43	1.42		
Height (in)		2.96	2.94	2.96		
Water Content (%)		22.0	24.5	25.6		
Dry Density (pcf)		105.2	100.9	99.3		
Void Ratio		0.59	0.66	0.69		
Back Pressure (tsf)		5.8	5.8	5.8		
Minor Principal Stress (tsf)		0.29	0.45	0.58		
Max. Deviator Stress (tsf)		1.42	1.22	1.31		
Ultimate Deviator Stress (tsf)		1.41	1.22	1.31		
Deviator Stress at Failure (tsf)		1.42	1.22	1.31		
Max. Pore Pressure Buildup (tsf)		0.09	0.15	0.25		
Pore Pressure Parameter "B"		1.0	1.0	1.0		
Pct. Axial Strain at Failure		16.9	20.0	20.0		

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Remarks: Radial drainage strips applied to trimmed specimen; Saturated, backpressured until "B" response was 0.95 to 1.00; Consolidated; All Drainage valves closed and immediately sheared.

Specimens varied in density significantly. Specimen A was not used in determination of friction angle



Effective ϕ' : 35.5° $c' = 0.00$ (tsf)
 Total ϕ : 17.0° $c = 0.32$ (tsf)

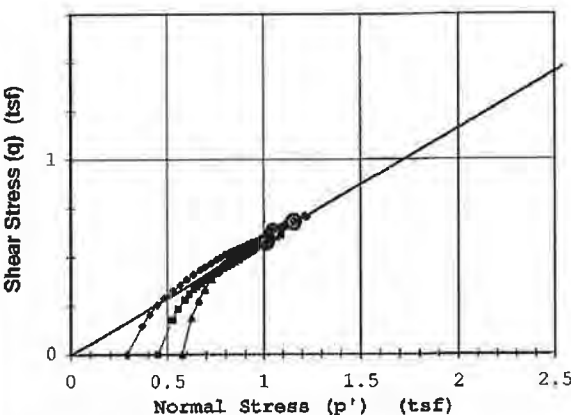
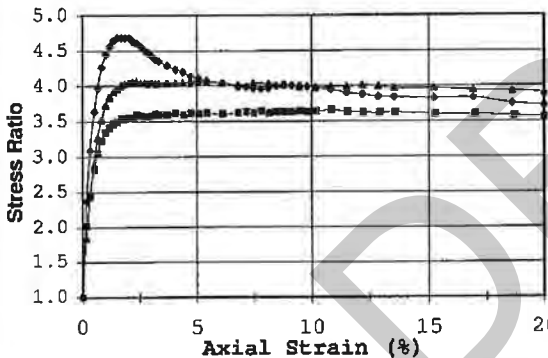
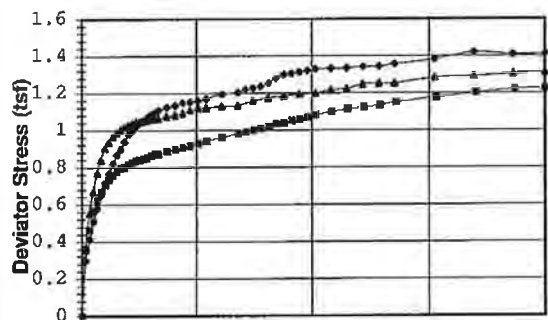
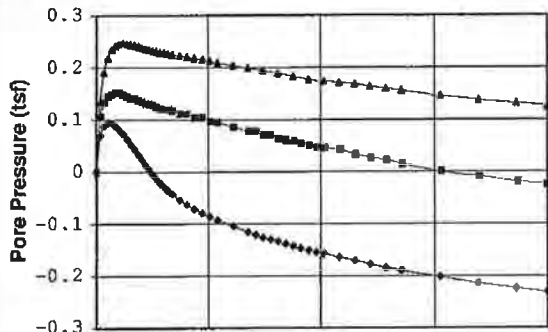
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Job No. 8389

Date: 4/20/12

Project: Taft Speedway Levee - Iowa City, IA - #126026
 Boring #: TB-1 Sample #: 2 Type: 3T
 Soil Type: Lean Clay w/sand (CL/CL-ML)

Depth (ft): 7.5-9



Rupture Envelope at Failure
 $\alpha = 30.1^\circ$ $a = 0.0$ (tsf)

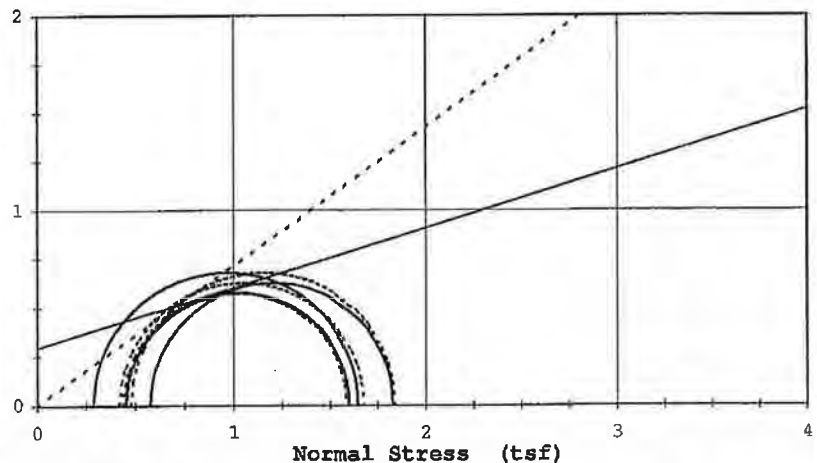


Failure Criterion:		Given Strain of: 15%				
Angle of internal friction, $\phi' = 35.5^\circ$						
Apparent Cohesion, $c' = 0.00$ (tsf)						
Test Date: 4/5/12	Test Type: CU w/pp		Liquid Limit:			
Strain Rate (in/min): 0.00148	Strain Rate (%/min): 0.050		Plastic Limit:			
		Plasticity Index:			Spec. Gravity (Assumed): 2.68	
Before Consolidation		A	B	C	D	E
Diameter (in)		1.44	1.44	1.43		
Height (in)		2.96	2.96	2.96		
Water Content (%)		15.3	24.0	24.6		
Dry Density (pcf)		104.6	99.7	97.9		
Void Ratio		0.60	0.68	0.71		
After Consolidation		A	B	C	D	E
Diameter (in)		1.43	1.43	1.42		
Height (in)		2.96	2.94	2.96		
Water Content (%)		22.0	24.5	25.6		
Dry Density (pcf)		105.2	100.9	99.3		
Void Ratio		0.59	0.66	0.69		
Back Pressure (tsf)		5.8	5.8	5.8		
Minor Principal Stress (tsf)		0.29	0.45	0.58		
Max. Deviator Stress (tsf)		1.42	1.22	1.31		
Ultimate Deviator Stress (tsf)		1.41	1.22	1.31		
Deviator Stress at Failure (tsf)		1.36	1.15	1.25		
Max. Pore Pressure Buildup (tsf)		0.09	0.15	0.25		
Pore Pressure Parameter "B"		1.0	1.0	1.0		
Pct. Axial Strain at Failure		15.0	15.0	15.0		

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Remarks: Radial drainage strips applied to trimmed specimen; Saturated, backpressured until "B" response was 0.95 to 1.00; Consolidated; All Drainage valves closed and immediately sheared.

Specimens varied in density significantly. Specimen A was not used in determination of friction angle.



Effective ϕ' : 35.5° $c' = 0.00$ (tsf)
 Total ϕ : 17.0° $c = 0.30$ (tsf)

2

Date: 4/20/12

7.5-9

Sample 1			Sample 2			Sample 3			Sample 4			Sample 5		
Strain (%)	Deviator Stress (tsf)	Pore Pressure (tsf)	Strain (%)	Deviator Stress (tsf)	Pore Pressure (tsf)	Strain (%)	Deviator Stress (tsf)	Pore Pressure (tsf)	Strain (%)	Deviator Stress (tsf)	Pore Pressure (tsf)	Strain (%)	Deviator Stress (tsf)	Pore Pressure (tsf)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.17	0.30	0.07	0.17	0.35	0.11	0.17	0.37	0.13	0.17	0.37	0.13	0.17	0.37	0.13
0.34	0.42	0.09	0.34	0.46	0.13	0.34	0.55	0.19	0.34	0.55	0.19	0.34	0.55	0.19
0.51	0.51	0.09	0.51	0.56	0.14	0.51	0.67	0.22	0.51	0.67	0.22	0.51	0.67	0.22
0.68	0.58	0.09	0.68	0.62	0.15	0.68	0.77	0.23	0.68	0.77	0.23	0.68	0.77	0.23
0.85	0.65	0.09	0.85	0.67	0.15	0.85	0.84	0.24	0.85	0.84	0.24	0.85	0.84	0.24
1.01	0.72	0.08	1.02	0.71	0.15	1.01	0.90	0.25	1.01	0.90	0.25	1.01	0.90	0.25
1.18	0.77	0.07	1.19	0.73	0.15	1.18	0.94	0.25	1.18	0.94	0.25	1.18	0.94	0.25
1.35	0.82	0.06	1.36	0.76	0.14	1.35	0.97	0.25	1.35	0.97	0.25	1.35	0.97	0.25
1.52	0.87	0.05	1.53	0.78	0.14	1.52	0.98	0.24	1.52	0.98	0.24	1.52	0.98	0.24
1.69	0.90	0.04	1.70	0.80	0.14	1.69	1.00	0.24	1.69	1.00	0.24	1.69	1.00	0.24
1.86	0.94	0.03	1.87	0.80	0.14	1.86	1.02	0.24	1.86	1.02	0.24	1.86	1.02	0.24
2.03	0.98	0.02	2.04	0.82	0.13	2.03	1.03	0.24	2.03	1.03	0.24	2.03	1.03	0.24
2.20	1.00	0.01	2.21	0.82	0.13	2.20	1.04	0.24	2.20	1.04	0.24	2.20	1.04	0.24
2.37	1.02	0.00	2.38	0.84	0.13	2.37	1.05	0.23	2.37	1.05	0.23	2.37	1.05	0.23
2.54	1.04	0.00	2.55	0.84	0.13	2.54	1.05	0.23	2.54	1.05	0.23	2.54	1.05	0.23
2.71	1.05	-0.01	2.72	0.85	0.12	2.71	1.05	0.23	2.71	1.05	0.23	2.71	1.05	0.23
2.87	1.07	-0.02	2.89	0.85	0.12	2.87	1.05	0.23	2.87	1.05	0.23	2.87	1.05	0.23
3.04	1.08	-0.03	3.06	0.86	0.12	3.04	1.06	0.23	3.04	1.06	0.23	3.04	1.06	0.23
3.21	1.10	-0.04	3.23	0.87	0.12	3.21	1.06	0.23	3.21	1.06	0.23	3.21	1.06	0.23
3.38	1.11	-0.04	3.40	0.87	0.12	3.38	1.06	0.23	3.38	1.06	0.23	3.38	1.06	0.23
3.72	1.12	-0.05	3.74	0.89	0.11	3.72	1.07	0.22	3.72	1.07	0.22	3.72	1.07	0.22
4.06	1.13	-0.06	4.08	0.90	0.11	4.06	1.08	0.22	4.06	1.08	0.22	4.06	1.08	0.22
4.40	1.15	-0.07	4.42	0.91	0.10	4.40	1.09	0.22	4.40	1.09	0.22	4.40	1.09	0.22
4.74	1.15	-0.08	4.76	0.92	0.10	4.73	1.11	0.22	4.73	1.11	0.22	4.73	1.11	0.22
5.07	1.16	-0.09	5.10	0.93	0.10	5.07	1.12	0.21	5.07	1.12	0.21	5.07	1.12	0.21
5.41	1.17	-0.09	5.44	0.94	0.09	5.41	1.12	0.21	5.41	1.12	0.21	5.41	1.12	0.21
6.09	1.19	-0.10	6.11	0.96	0.09	6.09	1.13	0.20	6.09	1.13	0.20	6.09	1.13	0.2

**APPENDIX E: TRANSCRIPT AND COMMENTS
FROM PUBLIC MEETING NO. 1**

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Taft Speedway Public Involvement Summary

Public Meetings

Date & Location	# of Attendees
8/25/11 Parkview Church 15 Foster Rd, Iowa City, IA	73

Comments Received

Comment Mechanism	Comments To Date
Email	7
Letter	1
Meeting Comment Form	20
Petition	3
Website	20
Total	51

Outreach

Outreach Type	Date of Distribution	Outreach Responsibility
Website Launch	8/16/11	HDR
Meeting Invitation	8/16/11	City of Iowa City
Press Release	8/16/11	City of Iowa City
Paid Advertisement	8/21/11	City of Iowa City

All Comments

Date Received: 8/18/2011 Comment ID: 3 ☒ Closed

Name: Brenneman, James

Organization:

Responder:

Comment Source: Website

Comment: Due to health problems I may not be able to attend a meeting. I am opposed to any significant flood mitigation for this area. It would seem to me that the money spent on mitigation (not to mention ongoing maintenance) will benefit only those condos in the flood plain at the expense of other residents of Iowa City. I live on Louis Place - up the hill from Taft Speedway. I was out of my house for at least a week during the last flood so I am not uninterested in this. I just think that whatever you do there, eventually - maybe not in my lifetime, but some day- the river will go where it wants.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 4 ☒ Closed

Name: Fellows, Robert

Organization:

Responder:

Comment Source: Email

Comment: Support letter (see scan)

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 5 ☒ Closed

Name: Novak, Tom

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Minimize negative effects on properties and structures outside the proposed levee. Spend public funds wisely: Fully assess and disclose all costs associated with constructing and maintaining a levee designed to protect private property at public expense. Will the alternatives explored include private flood mitigation options instead of a publically built levee (can Idyllwild build their own flood wall/removable flood wall)

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 6 ☒ Closed

Name: Cline, Sally

Organization: Idyllwild Condo Owners Association

Responder:

Comment Source: Letter

Comment: Flood Mitigation and Emergency Response Plan Exec Summary (see scan)

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 7 ☐ Closed

Name: Ettinger, Sonia

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Why are the various projects separated? Surely the Coraville project - not listed - and the Dubuque St and Riverfront Crossing projects relate to this project. The river doesn't know the difference! PS: The Hydraulics Dept knew there was going to be a flood - but the city listened to the Corps.

Notes: Jason to respond.

Topic(s):

Date Received: 8/25/2011 Comment ID: 8 ☒ Closed

Name: ~Anonymous, ~Anonymous

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Glad I'm not in your shoes - a no-win situation

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 9 ☒ Closed

Name: Wallace, Douglas

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Solution that is in the best long-term interests of all the parties involved, including Taft Speedway, Peninsula Development and others up Foster Rd and the Idyllwild Condo Assoc.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 10 ☒ Closed

Name: Geefer, Gregg

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: 1) There must be no increase in flooding risk because of any construction. No negative risk to Park View Terrace. 2) Make your assessment based on the assumption that Park Road Bridge will not be raised. There is no guarantee that this bridge will be raised. 3) Consider the fairness issue. Is it fair to build a levee to protect Idyllwild at another's expense? 4) Why do you simply do nothing? Let people live with what they bought. Let them buy flood insurance. Let everyone keep their present risk and present situation. No cost to the public and no harm to anyone. It is the fairest way. 5) The city must not abandon the residents who are staying in Park View Terrace. Why?

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 11 ☒ Closed

Name: Meis, Gerald

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: We live on White Oak Pl. The issue of fire protection has come up for our area in the event of a near term flood. Is there anything in place should we have a flood before mitigation. This maybe an issue with our insurance carrier.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 12 ☒ Closed

Name: Beyer, Nancy

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: The homes that exist on either side of the river - the families there - roots like the trees of the land - the precarious balance of our little ecosystem.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 24 ☐ Closed

Name: Pirnat, Cliff

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Find a way to use levee money to buy out Idyllwild. We should have all been aware of flood potential. People have health insurance - home insurance, car and life insurance the cheapest is flood insurance. We have to think of towns below Iowa City. No need to change Mother Nature. I still say something happened at the reservoir. Nothing under just below the dam in 93-2008 it was totally under. Again spillway over 30 days in 93; 12 days in 2008

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 25 ☐ Closed

Name: Tegen, Terry & Angie

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Two points that I feel need to be kept in mind. 1. The City encouraged development of the Idyllwild and the Peninsula saying that they were not in the 100 yr flood plain. 2. The residents of Taft Speedway and Parkview were offered buyouts, Idyllwild was not. Therefore, I feel that the City has an obligation to protect Idyllwild or offer buyouts at the 2008 evaluation level.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 26 ☐ Closed

Name: Johansen, Bill & Bev

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Idyllwild should be the 1st priority considered because it would affect the largest number of people, condos (houses) and also the tax base. Parkview Terrace could put up a levee to prevent their area from flooding. California has put up levees all over their areas to prevent flooding. Idyllwild residents wanted a buy-out but was told it was too expensive - also the City would lose the tax base.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 27 ☐ Closed

Name: Johansen, Bill & Bev

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: -Taxable income/property worth of Idyllwild condos - Number of families in Idyllwild vs Taft Speedway - No buy-out possible for Idyllwild vs offered buy outs for Taft Speedway - Design of berm/levee considering Parkview Terrace give more options with no homes along the river. A possible solution: - Abandon Taft Speedway/No-name Road - no homes; - Not enough room between properties for levee; - Good place for bicycle path on top of levee; - Can make substantial buy-out offer to Taft Speedway.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 28 ☐ Closed

Name: Gay, George

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: The program should be abandoned. People know of the flood risk when they bought. (especially after the floods) Flood insurance is available and risks taken - The City Council over-rode the unanimous decision of P/Z not to build in that area.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 29 ☐ Closed

Name: Benson, Bob

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Keep the levee low so that it does not affect the temperatures in Idyllwild. We do not get northern or western breezes. Remove the drainage pit at northwest corner of Idyllwild property. That put 7' of water into 22 Colwyn Ct June 22-23, 2008. Drain north hills down No-Name Road. Keep it out of (the Drain) on Idyllwild property. IOWA CITY IS MAKING FLOODING TOO DIFFICULT! I AM NOT BUYING FLOOD INSURANCE! We built at Idyllwild and moved in Jan. 1, 2000. Because, Ben Chait, developer for City of Iowa City said to us "you will never have to worry about flooding at Idyllwild, because the "Corps of Engineers" control the water level at the dam." So we at Idyllwild took that as absolute truth and built. All 26 or 25 buildings of 4 apartments each. The US Corps of Engineers on June 22, 2008: the order was given to "open the gates". THAT CREATED the flood. Three days before the flood, I went to the airport and remarked to my family, 'my gosh, I have never seen the lake so high' almost 1/2 the way from lake to residences, up the hill. 3 days later from Atlanta my wife called me to tell me it was flooded. At the marina, by the dam, they must house at least 300 boats. It was summertime and they need plenty of water. So I have maintained. It could not release the water fast enough when the rains came. I do not believe we will flood again.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 44 ☐ Closed

Name: Crawford, Mike & Ginger

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: - 92 homes in Idyllwild in 23 buildings. - Idyllwild does not meet FEMA buyout requirements. - Because of construction techniques, Idyllwild buildings cannot be reaised. - Prior to 2008 flood, Idyllwild provide Iowa City with almost a \$400,000 tax base. - Protection for Foster Road and Peninsula and Macknow developments

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 45 ☐ Closed

Name: Tegen, Terry & Angie

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Because we at Idyllwild were not offered a buy out, but the residents along Taft Speedway were, we deserve priority in protection from future floods. We would still consider a buyout based on 2008 values.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 46 ☐ Closed

Name: Wacker, Mike and Rhonda

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Protecting all properties in the surrounding areas. The levee will prevent future flooding. It will increase property values, increase tax bases for the city of Iowa City. I sympathize with the 9 owners on Taft Speedway, but something needs to be done. Hopefully there is a solution that will benefit all residents.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 47 ☐ Closed

Name: Monick, John

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: Future Flood Protection; Restoring Property Values; Impact on Other Mitigation Plans

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 48 ☐ Closed

Name: Hartman, Jeanne

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: -Our buildings cannot be raised. - Cannot protect Idyllwild w/sandbags. - By road and mailboxes is flooded 1st and causes residents to be blocked. We must move forward with this levee.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 49 ☐ Closed

Name: Kimmerling, Kurt

Organization:

Responder:

Comment Source: Petition

Comment: 1) Providing for a flood mitigation system which can protect Idyllwild. 2) Mitigation that can reduce flood insurance premiums for Idyllwild. 3) Mitigation system that can be easily maintained and available for deployment quickly. Either permanent or temporary.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 50 ☐ Closed

Name: Tobin, Joe

Organization:

Responder:

Comment Source: Meeting Comment Form

Comment: 1) Protecting families and personal property from future flooding. 2) increasing and preserving property values to pre-2008 flood levels or better. 3) Maintaining a viable community in Idyllwild. 4) Raising Debuque St and Foster Rd without installing a flood wall on Taft Speedway and installing back flow devices on the Idyllwild retention ponds will only make out chances of major flooding worse. There is no way that Idyllwild can protect itself and its residents from future major flooding a flood wall or levee on Taft Speedway. Personal Flood Insurance, which we now have, can only replace personal property, it cannot provide emotional and personal protection. Having been through the 2008 flood, we feel there is no way we would or would ever want to do that again. Also this is Iowa City's chance to receive government money to help mitigate and protect 92 families from future floods. Of the Taft Speedway levee is not built, these funds may be lost forever.

Notes:

Topic(s):

Date Received: 8/25/2011 Comment ID: 51 ☐ Closed

Name: Cline, Sally

Organization: Idyllwild Condo Owners Association

Responder:

Comment Source: Meeting Comment Form

Comment: A form of protection for Idyllwild - part levee, part another source of protection that can be put in place as flood waters rise. After the flood 2008- owners who could not face a rebuild or hand no money for a rebuild - sold properties between \$1.00 and \$80,000. Values prior to the flood were \$198,000 to \$268,000. In July of 2008 we were notified that 3 properties (3 buildings) were considered to be in the 100 yr flood plain. Our insurance for flood is about 1/3 of our income from HOA fees.

Notes:

Topic(s):

Date Received: 8/26/2011 Comment ID: 15 ☐ Closed

Name: Wilcox, Cathy

Organization:

Responder:

Comment Source: Website

Comment: Was the time line of the study process determined by the City? Or was it based on prior experience that your company has had with this type of study? Can you explain a bit more about the process of this type of study... As you complete different parts of it, does IC staff weigh in at all to make their comments? If so, exactly which city staff members or departments will weigh in?

Notes: John Engel to draft response; Jason to send

Topic(s):

Date Received: 8/26/2011 Comment ID: 16 ☐ Closed

Name: Crawford, Mike & Ginger

Organization:

Responder:

Comment Source: Website

Comment: Please consider my comments last night on holding individual meetings with various groups such as Idyllwild. I have communicated to City staff that our homeowners look forward to such a meeting and would be happy to make the arrangements. A number of things could be clarified in such a meeting. This might include: Due to construction, our buildings cannot be raised; because of the structure of our HOA we were not able to be considered for buyout; through a study by MMS (you will receive the completed copy of that study) it is impossible for us to protect our property through sandbagging for a flood similar to 2008; our overriding desire is to have flood protection for Idyllwild, whatever that may be. These would be some of the many things we could discuss in greater depth. Please meet with us. I can assure you that such a meeting would be helpful to your work, and would be an objective and rational discussion. Thanks.

Notes: Theresa draft response.

Topic(s):

Date Received: 8/26/2011 Comment ID: 17 ☒ Closed

Name: Kimmerling, Kurt

Organization:

Responder:

Comment Source: Website

Comment: Idyllwild has done extensive investigation on flood issue and has a very good engineering study available. It was completed by MMS Consultants. The summary is: 1. We cannot raise our buildings due to construction. 2. We cannot achieve a buyout because of the structure of the condo development. 3. It is an impossible task to protect our property by sandbagging. Too many bags to fill and too little time to prepare. 4. We have two flood risks. One from the river the other from runoff north and west of Idyllwild. Our overriding desire in this project is to end up with permanent flood protection for Idyllwild.

Notes:

Topic(s):

Date Received: 8/26/2011 Comment ID: 18 ☒ Closed

Name: Milller Chait, Terri

Organization:

Responder:

Comment Source: Website

Comment: As an owner of 8 condos at Idyllwild, I feel that the this small community is worthy of protection from future floods, and that permanent protection, such as a levee is the best option. 1. We cannot raise our buildings due to the size and type of construction. 2. We cannot achieve a buyout because of the structure of the condo development. Much of Normandy and Taft did get buyout offers. 3. It is an impossible task to protect our property by sandbagging. Too many bags to fill and too little time to prepare.

Notes:

Topic(s):

Date Received: 8/26/2011 Comment ID: 19 ☒ Closed

Name: Kopelman, Bob & Linda

Organization:

Responder:

Comment Source: Website

Comment: I'd like to add two comments following the August 25th meeting. 1- If construction occurs property owners expected to experience materially increased risk should assisted in an amount similar to that expended for protection of other property owners. 2- If financial analysis suggests that the balance of benefits is not >>> new risks public expenditures be limited to raising Foster Rd and similar items required to maintain access to the area. This approach acknowledges that some owners live in a flood plain and must accept responsibility for their decisions. (Similar to those who choose to live in coastal areas on the East Coast for whom protection from hurricanes is impossible and funding is directed at emergency evacuation planning, etc.) (In response to comments about damage from ground water it is possible to get sewer and sump riders on homeowners insurance.) Bob Kopelman

Notes:

Topic(s):

Date Received: 8/26/2011

Comment ID: 20

☐ Closed

Name: White, Jim

Organization:

Responder:

Comment Source: Email

Comment: An idea that occurred to me after last night's meeting was, why not have the City of MMS mark out along Taft Speedway and No Name Road the width of the levee as proposed in the Stanley map which accompanied the original application for funding for this project? I think this would be most helpful to all interested and concerned parties and I am sure current and future City Council members would benefit as well. I suggest this be done ASAP and especially before the next public meeting on this project.

Notes:

Topic(s):

Date Received: 8/26/2011 Comment ID: 23 ☐ Closed

Name: Rosenquist, Marilyn

Organization: Manville Heights Neighborhood Association

Responder:

Comment Source: Email

Comment: Sent to the Manville Heights Neighborhood Assoc.: Press Citizen article 8/25/11 <http://www.press-citizen.com/article/20110826/NEWS01/108260320> The below email is forwarded from Parkview Terrace Neighborhood Association. Website for comments is included. Thanks, Marilyn Rosenquist ----- Greetings, Last night's flood mitigation meeting was interesting. The public was invited to comment and a number of people spoke—some spoke for the levee, some against, and some want everything to be fair for everyone. The presentation started at 6 p.m., was brief, and then the comments lasted until 8 p.m. when the meeting closed. The meeting should be broadcast on the city channel (4). It is very important that Parkview Terrace residents and others who are interested comment. The website for comments is: <http://www.hdrpi.com/taftspeedway/#docs> Please make comments at and continue to use the above website for comments as you think of new ideas. The Idyllwild residents, many of whom are retired, are likely to comment so our side of the river should also. Below is a recap of the meeting as best as I can recall. If I left anything out, I apologize and please feel free to reply back to everyone. There will be a follow up meeting later this year--please consider attending. Thank you! Mary Meeting Recap As I recall, there were at least 4 supporters who spoke directly in favor of the levee. 1. Sally Cline, a realtor with Iowa Realty, resides in Idyllwild. She is President of the Idyllwild Condominium Owners Association. She referenced a report the Idyllwild Condo board commissioned by MMS on options to protect Idyllwild.; 2. Terri Miller Chait, president, secretary, and treasurer of Idyllwild Development II, Inc. which appears form the assessors website to own 9 condos and 12 parcels of land. Ms. Chait is a director of the Idyllwild Condominium Owners Association. She said Idyllwild Development, which she represents owned several properties and it would be difficult to sandbag Idyllwild.; 3. Mary Kathryn and Douglas Wallace. Mr. Wallace said he was an engineer and that engineers are capable of solving any problems associated with building a levee. Mrs. Wallace's appeal was more emotional.; 4. Mike Crawford, another Idyllwild Condo board member, also spoke. He wants HDR to meet independently with impacted groups and said the issue is about people.; A couple of people commented that the project goals were unclear and wondered what they were. Comments that did not support a levee included the following: 1. Building a levee to protect a few people at the expense of others is not fair.; 2. Property taxes shouldn't be used to build a levee which supports a few people. One Taft Speedway resident referred to the costs of the levee. He asked what if it was \$25 million?; 3. Hydrological concerns—a number of people, including at least one person at the Idyllwild side, said that water comes up from the ground and could flood Idyllwild from within if the levee is built (or something to this effect). People also referenced water problems caused by heavy rains.; 4. Parkview Terrace is still a neighborhood and the levee shouldn't impact others.; 5. Many people spent money to rebuild homes and have other expenses. The buyout wouldn't compensate people for this and so a buyout wasn't feasible.; 6. Idyllwild residents should worry because if Idyllwild does flood from within property insurance won't cover the damage and insurance for damage caused by groundwater may be unavailable.; 7. Impact on wildlife.; 8. The levee could be wide enough to adversely impact an Idyllwild end unit.; 9. Past city councils were warned not to let Idyllwild be built but did so anyway.; 10. The homes on Taft Speedway would be negatively impacted by the presence of a large levee.; 11. The Idyllwild tax base can be protected by the Idyllwild residents purchasing flood insurance which is far less expensive than a levee.; 12. Raising Foster Road is much less expensive than building a levee.; 13. If the University could move Calvin Hall on a hill with oxen and still hold classes during the semester, Iowans should be able to raise the Idyllwild condo building (this was in response to an Idyllwild comment that their buildings couldn't be raised).; 14. There was at least one comment that removing or changing the Burlington stream dam would benefit all.; 15. Access to the Peninsula could be had less expensively through Laura Dr.; 16. What will happen to water and sewer pipes if they have to go through the levee (applicable to Taft Speedway residents). One of the more interesting comments which the newspapers did not pick up on came from Ed Cole who owns the trailer park over by Idyllwild and I80. He stated he would be willing to sell the city some of his land to create a second access into the Peninsula. [Iowa City claimed in its application that it needed a road on top of the levee to create a secondary access into the Peninsula. Right now, even this wouldn't help the city because it doesn't own the land to connect any levee road to the Peninsula.] Mary Murphy Parkview Terrace Neighborhood Association

Notes:

Topic(s):

Date Received: 8/27/2011

Comment ID: 34

☐ Closed

Name: Wilcox, Joel

Organization:

Responder:

Comment Source: Website

Comment: I believe that it would be a mistake to pursue any special flood mitigation strategies that create unfairness or disadvantage for one set of neighbors by attempting to protect another set. Creating adverse effect makes the taxpayers of Iowa City liable for any possible future damage that could be linked to those efforts. People live on the flood plain at their own risk. It is not incumbent upon the City of Iowa City and its citizens to make living on the flood plain risk-free. I don't believe that any action can make an area of the flood plain truly risk-free. At best, it might create the perception that it is risk-free. At worst, it could create new risks that are not anticipated. For example, if a levee were built along Taft Speedway, it might make Idyllwild prone to being flooded from behind it in the event of rains such as occurred this summer in Dubuque, Iowa. The area would be subject to the effectiveness of pump stations, etc. The best plan is to let the river spread through the flood plain. We know exactly what that does. Flood insurance is the best strategy available to protect property value on the flood plain and it is available to all individuals who assume the risk of living on either side of the river in Iowa City. My family is uniquely caught up in the issue particularly of the proposed Taft Speedway levee. My wife and I and our children live along the river on Taft Speedway; my mother lives in an Idyllwild condominium. My mother is one of the remaining original owners still living in Idyllwild, and of those individuals, she is one who has no other domicile. Her worldly wealth is entirely tied up in her property. I am not without interest in the future of Idyllwild for the sake of my mother's happiness and comfort and for the future viability of her property as an investment. Despite this, I find the concept of a levee to be unacceptable for the following reasons: "For the most part, it appears that the motive is not to help people who are currently suffering to recover but to improve the perception that their property is worth more than it is perceived to be worth as a result of its having been flooded in the past " Even if the question of perceived value were a legitimate reason to use taxpayer funds, I believe that a levee would adversely affect the value of my mother's property over time because it would change the view, decimate the whole region of many of its trees, and generally make Idyllwild into an unsightly dry island. " City Park is a great treasure of Iowa City. A levee would adversely affect all neighborhoods on both sides of the river by spoiling the view from all sides of it. The adverse change in the prospect from across the river would directly affect the value of the park for all the citizens of Iowa City. " A 500-year flood is by definition a .2% probable event. Flood insurance, available to all, is a better form of protection for events of this nature and rarity. " A levee would not protect my mother and other Idyllwild residents from inconvenience in the event of a flood, as more than likely, in the extremely improbable event of a repeat of 2008 conditions, residents would still be evacuated, but would they be eligible for any financial assistance in relocating? " I don't believe that the Idyllwild Association and the City of Iowa City have pursued with all due diligence the most clear, effective, and economical avenues of flood mitigation in Idyllwild, namely, by raising the structures themselves. This is something that the Idyllwild Association could undertake on its own behalf. It is the model that has been pursued by individuals successfully elsewhere on the floodplain. Our home on Taft Speedway was a ranch home built on a slab in 1959. We had it raised in 1993, built new walls on the original footing, and constructed a completely new floor to set our home back down on. This new level was almost entirely flooded in 2008, but our actual living space was unharmed. The extent of our recovery in 2008 was mainly cleanup. Water receded from our lower level in early July 2008 and by late July we were living in our home again. House movers can elevate any structure. Even if taxpayers had to subsidize this cost, it would probably be much cheaper than the cost of a levee without the potential liability the taxpayers might incur from the creation of adverse impact if they are required to subsidize a levee, and its effectiveness would be certain as compared with any attempt to control the river. Iowa City's original proposal, in my judgment, secured funds as a result of not disclosing the existence of a neighborhood (Taft Speedway St) that would be directly, intimately, and deleteriously affected by a levee. The reason that this very study is underway is because of interventions at our request by Senator Charles Grassley and HUD, as per his request. While it is understandable that HUD and the Iowa Department of Economic Development have done all that they could to rush funds to the City for its relief, it remains unconscionable that these funds are at issue as a result of an application in which a whole neighborhood was hidden. In addition, other residents who might be affected elsewhere on the flood plain were also neglected. The original application also made this project about an "alternative" access to the Peninsula neighborhood. The City owns the Peninsula neighborhood and held itself to a more lenient standard than other construction projects by not requiring a secondary access when the neighborhood was initially developed. The only way that the City could make Taft Speedway into a true "alternate" or secondary access to the Peninsula is by purchasing properties west of Taft Speedway,

Report date: 5/16/2012

which the City has tried to do but has so far been unsuccessful in doing. CDBG money is for the relief of human suffering. I believe that it is wrong and bad policy to use money designated for the relief of suffering to create a secondary access to a neighborhood. If the case were to be made that the "alternative" aspect that the levee would create is an alternative to Foster Road, it is simply not credible that there would ever be conditions in which Foster Road, already protected by a levee, would have as its alternative a road on top of the protective levee itself. The original application is not a credible representation of how a road-levee would both protect Idyllwild and provide alternative access to the Peninsula neighborhood " without further development of the road to the west of Taft Speedway being somehow understood though not stated as such. The original application therefore is unwholesome and lays a very shaky foundation for the project as a whole and makes the City's entire effort subject to speculation and conspiracy theories.

Notes:

Topic(s):

Date Received: 8/27/2011 Comment ID: 35 ☐ Closed

Name: Seydel, Carol

Organization:

Responder: Comment Source: Website

Comment: The Levee is a waste of tax money for a private development. IT will be a blight on the entrance to Iowa City. It will not protect the entity that it is meant for as Idyllwild can flood from behind the levee as well as from the river side. It is a drainage for many acres of land surrounding the property. The statement that the Idyllwild owners were denied a buyout is not correct They had to have 100% cooperation of tenants and they did not get. Parkview Terrace had to agree to the same stipulation for a buyout and they failed to do so also., How much tax revenue is generated from Parkview Terrace and Taft Speedway resident . Is it equal to or greater than the \$550,000 that Idyllwild Development provides? It seems to me the City spends more than that keeping the residents of Idyllwild content. The Church pays no taxes I assume since it is a religious entity. What will the cost be for relocating the infrastructure for Taft residence. I hope they are not planning on the resident paying for that. Consideration of the effect of the coffer dam on the flood of 2008. As well as the lack of attention from the Rock Island engineers at the reservoir. The water was held high all summer of 2008 for the recreation on the reservoir. I live on the river and I watched the height of the water all summer. It was bank high over 10,000 cubic ft . most of the summer. Greater attention should be given to that. The reservoir has a flood protection purpose. It was not built for a recreation facility. Let us ask again who is to gain from this levee. It is The City engineers who want a road to the peninsula neighborhood They failed to provide two means of egress when developing the neighborhood. Thus the neighborhood had to be evacuated. Even though they were a mile above the river. The one road in and out was flooded. If this is the case continue Laura Drive over the top of the hill and save a lot of headaches. I believe that the idea of so-called free money from the Federal Government gave them the idea of how to get a free road to solve their dilemma. Taft Speedway was to be a neighborhood road. Only the residents were to use it. That is a fallacy. Traffic from the peninsula is very heavy on Taft. The drivers are avoiding the traffic light on Foster and speeding along Taft which is a chip and seal driveway . Check that out. My property is historically significant Iowa City family owned property for over 150 years. Floods do not bother us. We rebuild and live contentedly in our waning 83 years. Carol Seydel

Notes:

Topic(s):

Date Received: 8/28/2011 Comment ID: 13 ☒ Closed

Name: Hall, Becky

Organization:

Responder:

Comment Source: Website

Comment: 1. Please do not throw more money, as a bandage, on a problem that will only be really solved through buying out or raising/moving homes out of the river's way. Let's learn from the past. 2. After visiting the new Katrina Museum in New Orleans and seeing the exhibit that shows the many ways levees can be breached, I don't think this is the answer, especially for the Idyllwild area which sits so low. 3. Coordination with other agencies and cities is needed. What we do affects others. Look at other studies and the flood model the University of Iowa uses. 4. Maybe the best solution is doing nothing but putting more material along the river to control erosion, raising the Park Road bridge and buying out or raising more houses. These things are all being done now, but let's use the \$11 million plus for more of these projects and not levees.

Notes:

Topic(s):

Date Received: 8/28/2011 Comment ID: 14 ☒ Closed

Name: Guentner, Wendelin

Organization:

Responder:

Comment Source: Website

Comment: Thank you for this opportunity to respond by email; I was unable to attend the meeting. First, kindly include Stonewall Condominiums on your list of interested parties (560, 562, 570, 572 Foster Road). Our condos date from 1978. We were therefore here before any of the communities that were named and have just as much right if not more to be heard. I moved into my condominium in 1991, but have lived on the Peninsula (Haywood Drive) since 1985. At that time, except for the homes along Taft Speedway, there was no development in the floodplane. From those early years on I have walked my dogs along Taft Speedway and so am familiar with the homes and their transformations through the years. I remember the flood of 1993 when there was only one unit of Idylwild built. Knowing that the corn field that was on the site where Idylwild was going to be built was very often flooded, I couldn't imagine how homes could be built there. However, fill was brought in and the project proceeded; unfortunately we had another flood. I have just a couple of points to make: 1. The residents along the river on Taft Speedway need to be protected. I remember seeing the progress of all the rebuilding (and raising of buildings) that took place after 1993. This helped a number of the residents avoid a worse disaster during this last flood. These architectural changes were terribly expensive. To the residents, their investment is at least as valuable as that of the Idylwild residents is for them. The longtime Taft Speedway residents should not be seen as expendable or an inconvenience as more expensive units or developments are protected. 2. The view of the river should be protected and access even enhanced. Many people walk along Taft because they enjoy the view of the river, the eagle sightings, etc. Whatever roadway is built (if one is) it should include the needs of walkers and bikers and not just motorists. Thank you. Wendelin Guentner (570 Foster Road).

Notes:

Topic(s):

Date Received: 8/29/2011 Comment ID: 22 ☐ Closed

Name: Benson, Bob

Organization:

Responder:

Comment Source: Email

Comment: Hello jason: I want to know what planning is on your agenda for the removal of that drainage pit to a different location off of Idyllwild property. As I said, that clear water from the flood allowed 7' of water into 22 Colwyn Ct. costing \$67K ,along with other properties close to the front lake, costs unknown to me. Oh yes, the City built a 8' sand bag levee from Foster Rd. between our condos and incoming entry road. The water from the drainage pit overflowed and ran over the levee of 8' and drained eastward and south. The Welt agency measured the clear water depth at 7'. Take a look at the pit and let me know of the plans. Thanks

Notes:

Topic(s):

Date Received: 8/31/2011 Comment ID: 21 ☐ Closed

Name: White, Jim

Organization:

Responder:

Comment Source: Email

Comment: I know that you called and indicated to me that due to non-budgeted costs and the "inexact" nature of the Stanley map for the proposed Taft Speedway and No Name Road Levee project, that my suggestion in my August 26, 2011 e-mail to you would not be possible, feasible or produce an "accurate" result. Today I was reviewing my file on this project and read once again a letter dated March 23, 2011 sent to Senator Grassley's Office in Cedar Rapids from Tim Waddell of the Iowa Department of Economic Development. In this letter Mr. Waddell indicates that IDED and the HUD Disaster Office expect the City of Iowa City to "Determine height and width of levee at 100 year +3 feet and 500 year levels." And to "Determine ability of residents to exit and enter homes after construction." And to "Determine the location of main water and sewer mains and if they are on the north side of levee...." along with a number of other important topics and requirements. So, it appears to me that my suggestion was not as original as I thought, and more importantly that my suggestion and others related to it will have to be done in the very near future. If I am not reading and interpreting Mr. Waddell's March 23, 2011 letter to Senator Grassley correctly please inform me as soon as possible either by e-mail or regular US Mail.

Notes:

Topic(s):

Date Received: 9/14/2011 Comment ID: 30 ☐ Closed

Name: ~Anonymous, ~Anonymous

Organization:

Responder:

Comment Source: Website

Comment: The CDBG supplemental disaster application was approved for a levee, not anything else. Any attempt by the City to move these funds to any other type of flood mitigation, in my opinion, would be illegal. Previous legal notices in the newspaper, City Council approval for the grant application, City Council votes to accept the money, etc etc. were all based on the construction of a levee!

Notes:

Topic(s):

Date Received: 9/15/2011 Comment ID: 31 ☐ Closed

Name: Murphy, Mary

Organization:

Responder:

Comment Source: Website

Comment: Could I have an email address for the consultant to submit my comments to? They may be too long to submit via this website although I will try in the next day or so. Thank you. Mary Murphy

Notes:

Topic(s):

Name: Murphy, Mary

Organization:

Responder:

Comment Source: Website

Comment: 1. When was the Coralville Dam built? At what time was each individual Idyllwild building completed? Did any Idyllwild buildings flood in 1993? If so, to what extent, and is there photographic documentation to support the same? Isn't it true that the Idyllwild development has flooded only once since it was built, and that was during the flood of 2008? 2. The best and most fair solution is to do nothing. The contention that there must be a taxpayer funded solution (levee, temporary, or otherwise) to Idyllwild is wrong. Idyllwild was knowingly built on a bog/wetland and in the riverbank. Any flood mitigation for Idyllwild rewards bad planning, is horrible public policy, failed last time and should not be invested in a second time. Idyllwild residents and the condo association should purchase flood insurance and the condo association should set up a reserve for damages not covered by flood insurance. Your report should reflect this. 3. Asking Iowa City property owners to subsidize Idyllwild owners with a taxpayer paid levee or other flood mitigation at the expense of Taft Speedway and Parkview Terrace homes, which existed long before Idyllwild was even built, is ludicrous. The list of Idyllwild owners that would be protected includes those listed below. See <http://iowacity.iowaassessors.com/>. I support no flood mitigation for Idyllwild! A) Bob Bowlsby, the current athletic director for Stanford and the former athletic director of the University of Iowa, and son Kyle own 118 Pentire Circle. B) Terri Miller Chait of Idyllwild Development II, Inc. owns 9 condos + 12 parcels of land (not just the several properties she acknowledged at the recent Parkview Church meeting). C) Bocway Investments, LLC owns 14 condos, D) Hills Bank owns 3 units, E) Quad Hawk, Inc. owns 4 condos (with one of the principals likely owning another), and F) Jeff Miller Construction owns 3 condos. G) Sally Cline, a realtor for Iowa Realty, who might financially benefit from the future sales of Idyllwild units. Kurt Kimmerle is also listed at her address. 4. Flood insurance will protect the tax base, and it's wrong to punish the people on Taft Speedway and across the river because the Idyllwild board and residents failed to purchase flood insurance prior to the 2008 flood. 5. The Idyllwild condo association likely now has flood insurance. The developer and the condo association may be pushing for a levee or other flood mitigation because they are concerned about being sued if nothing is done and the development floods again. This, if true, is not Iowa City's nor its taxpayers' problem to solve. 6. Some Idyllwild units have been rented since 2008. The condo association claims rentals will only be allowed for a few years then the property must revert to owner occupied housing. I'm skeptical. There are enough owners of rental units in Idyllwild that they could vote to maintain rentals into the future. Idyllwild's by-laws could also be amended. You can search rental permits in Iowa City online at <http://www.iowa-city.org/icgov/apps/gen/rentals.asp>. 7. Currently, Idyllwild is under-assessed by the assessor's office, and Iowa City could be deriving more taxes. An Iowa City assessor stated that the units' assessed value reflects concerns about the potential liability of buyers as evidenced by their liability during the 2008 flood. This concern is misplaced. About a 1/2 of Idyllwild units are rented out and the owners are receiving fair market rent - thus getting 100% use out of their investment. Their investment and the investment of those owners who occupy their homes should now be protected by flood insurance so their liability is much more limited than during the 2008 flood. 8. Further, one reason Idyllwild owners had so much liability during the 2008 flood is because the condo association made an overly expensive contract for cleanup and required all owners to contribute. The cleanup company seemed to know what FEMA would pay residents and charged accordingly. This cost was much more than most other Iowa City water damaged property owners paid. If there is a next flood, the condo association will surely make a wiser clean up contract and minimize their liability. In fact, it could make arrangements for such a contingency now. 9. Some investors in Idyllwild bought from flood victims who sold more cheaply than they could have. Find Idyllwild rentals by using Google; Idyllwild units have been advertised on Bocway's website, Craigslist, and other places. Taxpayers should not be asked to subsidize the profits of these investors. 10. At the end of the day, the Idyllwild owners own what they bought - the intrinsic value remains the same, the residences can still be used for their intended purposes and the land can still be walked on. 11. The other side of the river, including Iowa City Park and Parkview Terrace, is left unprotected. The water's going somewhere and no one else wants it. Even a few inches could mean the difference between homes and downstream businesses flooding and not flooding. Parkview Terrace is much better off without a levee - this is true regardless of whether the Park Road bridge is replaced. 12. Instead of a levee or other non-insurance flood mitigation for Idyllwild, raise Foster Road, dead end Taft Speedway, and save taxpayers millions of dollars. How much money would be saved by doing this? Please show the cost savings under Iowa City's Gateway project and this project. CDBG disaster funds are federal tax dollars. General obligation bonds issued by Iowa City need to be repaid with property taxes. Idyllwild is not essential public infrastructure like a hospital or fire station - don't

spend our tax money on a levee or other flood mitigation for it! 13. If efforts to provide flood mitigation (levee or other) adversely impact my home in the future, we will sue. Others may also. The costs of any lawsuits should be considered in any cost benefit analysis of flood mitigation. 14. Levees are ugly and no amount of dressing them up can make them not look like a levee. Flood mitigation on Taft Speedway can be seen from across the river in Iowa City Park's and is a horrible legacy to leave those who enjoy the river view from the Iowa City Park river trail. 15. Does or did the Hayek law firm (past or present) represent any of the owners of Idyllwild condominiums or developers of the Idyllwild area? If so, please provide details. 16. An Iowa City planner has shared that the university may be interested in the Parkview Church property for a dorm or a private developer for more housing. I've also seen documentation on the city's website that suggests more Idyllwild units could be added. Permitting more development in this area that should be a bog/wetland is horrible public policy and potentially expensive for taxpayers. 17. Does any party other than the Parkview Church have an interest in the Parkview Church property? Has any party or parties purchased an option on or other interest in the property? Does the university have an interest in the Parkview Church property? 18. Proponents of the levee seem to believe that it is okay to flood some property owners and/or put them on the "wrong" side of a levee because these owners were offered a buyout; however, this rationale is faulty and misleading. All property owners in Parkview Terrace were not and are not eligible for a buyout, and many impacted property owners started repair work because they could not afford to wait around to see if the city came up with money for a buyout. 19. Plus, a requirement of using federal money to buy out properties was that the buyout be voluntary. Frightening Iowa City residents into selling their homes by threatening them with flood mitigation which could push future water at them robs the buyout of any voluntary nature and certainly violates the spirit of the federal buyout requirements, if not the legal requirements. 20. My family, who lives in Parkview Terrace, is not eligible for a buyout and doesn't want one. There are other owners who were not eligible for a buyout. There is no effective buyout strategy for Parkview Terrace and Iowa City will not own 100% of the homes in Parkview Terrace after the "voluntary" buyouts are complete. 21. A Parkview Terrace resident, accurately explained at the recent meeting that people put money back into their houses before the city legally offered them a buyout and that they could not afford to later take a financial loss by accepting the buyout which only became available later. 22. What is the specific date the city had the money in hand to make a "legal buyout offer" that was capable of being accepted to 1) eligible Parkview Terrace residents, and 2) Taft Speedway residents? Note, I am not asking for the date that the city mentioned a buyout may be possible or asked about interest in a buyout. 23. A levee, if built, it will be very large and noticeable, and Idyllwild may not attract the same professional/high income demographics it did in the past. The levee would remove Idyllwild's connection to the river. What would the impact on the Idyllwild property tax base be of a big ugly levee next to the condominiums? 24. Iowa City's public works department's failure to promptly demolish vacant homes is creating neighborhood blight in Parkview Terrace and helping suppress property values there. These are homes which had been completed rehabilitated after the flood. 25. Do all Idyllwild condo owners understand how tall and wide the levee would be? How close would this levee physically come to any of the closest Idyllwild units? Will any Idyllwild condo units need to be sacrificed? What happens to the Idyllwild pond closest to Taft Speedway if flood mitigation to protect Idyllwild is pursued? 26. City staff knowingly permitted development of the Peninsula with only one access point to try to create a "new urbanism" development. (Other private owners who have wanted to develop property with only one access point have been denied.) The Peninsula development failed during a time period when other housing developments were successful. This information can be verified by looking at the original plans and due dates for the Peninsula. Our taxes have subsidized the Peninsula enough in terms of paying for city staff, infrastructure, the single family new construction subsidized home program, etc. Simply looking at sales to determine whether the Peninsula has been successful is misleading since many of the sales have been subsidized. All subsidies and future development of the Peninsula should stop. Disaster grants should not be abused to solve a known planning problem which existed before the flood. 27. If city staff wants a second access point into the Peninsula, it should purchase land from Ed Cole or his company as he has offered publicly to sell it to him, and the city has said this might occur from the beginning. The problem of a lack of a secondary access road into the Peninsula was created by Iowa City staff and past councils. People have had homes along Taft Speedway long before the Peninsula and Idyllwild were developed and fairness dictates not disturbing the Taft Speedway owners' property rights. 28. Idyllwild was knowingly built in a swamp/bog/wetland. Former city councils were warned by many, including Taft Speedway residents and Professor Kennedy, whose specialty was river hydraulics and who was the chairman of the National Academy of Science Committee on Hydrodynamic Computer Models for Flood Insurance Studies, over the years, not to permit development. Despite this, Iowa City permitted development. Many long term Iowa City residents are very familiar with the Idyllwild property and understand it was built in a floodplain. In effect, Taft Speedway residents have been whistleblowers. Penalizing the whistle blowers by building a huge levee or other flood mitigation in front of their homes

is very bad public policy. University of Iowa Professor Kennedy's written statement to the Iowa City Council about the Peninsula is dated January 9, 1990, and is available. 29. University of Iowa College of Law Professor Samuel M. Fahr sent a letter to Iowa City Council dated January 17, 1990, warning the council not to develop Idyllwild. This is also available. 30. I recall the controversy when Idyllwild was developed, many of the owner occupiers of Idyllwild are older than I am, have lived in Iowa City for years, and should remember it as well. The possibility of flooding was a risk that was knowingly assumed by many who bought property in Idyllwild. 31. Iowa City historian, Irving Webber, wrote much about the Iowa River in the Idyllwild area and his work is still readily available (check <http://digital.lib.uiowa.edu/weber/index.php> or the U of I library or Prairie Lights Bookstore for his books). 32. The flood model does not show what the impact of the levee would be on the other side of the river independent of other projects. The impact on the entire area under the river bluffs, including Iowa City Park and all surrounding infrastructure (which review should also include some impacted residences along lower Park Road and Lee Street) should be analyzed. What is the projected impact of any proposed Idyllwild flood mitigation on the other side of the river independent of other projects? What is the uncertainty associated with this projected impact? The current flood modeling assumes that the storm sewers of Parkview Terrace will be updated. This has not occurred and no money is budgeted for this project. Any future modeling should take this into account. Evaluate floods of all stages. 33. Despite all of the known expertise, no one accurately predicted where the water would go and to what extent during the recent Hurricane Irene. If the Army Corps of Engineers truly understood where water goes, there would be better predictions about flooding. What guarantees will the city make about its consultant's projections about where the water will go if flood mitigation is pursued for Idyllwild? Is the Iowa City Council willing to issue hold harmless agreements to those of us who are potentially adversely impacted by flood mitigation? 34. The flood model, based on free software from the Army Corps of Engineers, may be the best model that is available but it is far from perfect and should not be relied upon with the certainty with which some Iowa City staffers are using it. 35. Iowa City's flood model, building upon the Ayres flood model (which used software from the Army Corps of Engineers), contains many assumptions and inputs which are not available to the public and may or may not be accurate. David Purdy and Jeff Davidson, of Iowa City staff, need to be educated about the flood model and to what extent any flood model should be relied upon. The projected water surface elevations have been used by some city staffers as though the numbers are set in stone. Will you educate Iowa City staffers and the city council about flood models? What assumptions are used in the flood model relied upon by Iowa City? Please list every assumption and list with specificity where human judgment was applied in using the model. I understand the flood model can predict the 2008 flood model in retrospect; however, floods have never been the same and any future floods will not be exactly like 2008. 36. Who controls the use of the flood model to predict the impact of the proposed alternatives, including a levee, on Parkview Terrace? Who will supervise the consultant who controls the use of the flood model? It should not be Iowa City staff who have applied for and pushed for flood mitigation for Idyllwild. It should be someone independent of Iowa City staff. 37. Some city staffers seem emotionally attached to getting flood mitigation for Idyllwild and may not make or recommend a decision which is in the best interests of the city and its property owners. Could the consultant report directly and independently to Tom Markus, the city manager? Some of the Idyllwild owners have sent comments directly to David Purdy on Iowa City staff. Is Mr. Purdy soliciting comments in favor of Idyllwild's flood mitigation and forwarding them to city council? This bias, if it exists, is a potential concern. 38. The Parkview Terrace storm sewers should be updated. This becomes an issue, especially in winter time when the streets ice and becomes difficult to drive on. Iowa City is wrong not to budget for and maintain this type of necessary infrastructure. The city's flood model assumed Parkview Terrace's storm sewer improvements would be made. In fact, the city should properly repair and maintain all known existing infrastructure problems before taxpayer subsidized flood mitigation is provided for a private condo development. 39. How much money was spent to restore Iowa City Park following the flood of 2008? 40. In a flooding event, there are likely to be multiple reasons for flooding. In 2008, the Iowa River flooded, it rained, and water came up from the ground. The sandbags didn't work and a lot of money and time would have been saved had people understood this sooner. Even though pumps were trying to pump water out from behind the sandbags, the water came up faster than the pumps could pump. If a levee or other flood mitigation is built, it won't stop water coming up from the ground and it is likely that pumps may not work. Even if they do, they are going to be expensive to procure, maintain, and operate. How much are these costs? Who will be responsible for cleaning clogged drains during a flood (per Bob Benton's comments at the Parkview Church meeting and his editorial to the Press Citizen)? 41. Unlike the Idyllwild neighborhood, the Parkview Terrace neighborhood did not hire an expensive consultant. We've all heard from Terri Miller Chait (who is behind Idyllwild Development II, Inc. which owns 9 condos and 12 parcels of land) how many sandbags it would take to protect Idyllwild; however, what is the point? Whether you use sandbags or a flood wall, the protection is illusory. The fact is water comes up from the ground and it comes from the

sky along with the river, and such mitigation measures are likely a waste of taxpayer dollars. Sandbags or a flood wall won't stop water from the coming up through the ground or the sky. 42. There are massive tiling efforts going on in Iowa right now (probably for fear of future regulation). This will drain more water into the rivers. Plus there is a lot of tiling that no one knows about. How does this impact future flooding events in Parkview Terrace and the surrounding area? Parkview Terrace remains better off without flood mitigation for Idyllwild and the Parkview Church. 43. The Idyllwild condo buildings could be raised. One commentator at the recent Parkview church meeting accurately pointed out that the University of Iowa moved Calvin Hall using oxen. The large Czech museum in Cedar Rapids was recently moved. Mary Katherine Wallace of Idyllwild has said they would raise their buildings if they could - this can be done and so long as taxpayers don't fund it, leave them with that option. 44. Iowa City's application for money to help build the levee stated the levee would provide "a permanent access to the Peninsula neighborhood" Raising Foster Road, less expensive than building a levee, will achieve the city's goal. Why not raise the part of Foster Road which flooded? 45. Foster Road did not flood in 1993 and did not flood much in 2008. Please verify how much exactly Foster road flooded in 2008? Don't rely on city staff to determine how much of Foster Road flooded - look at aerial photographs. You can see from the picture below of Idyllwild and Foster Road (at the right of the picture) that Foster Road didn't flood much in 2008. 46. Iowa City could easily be liable for damages for inverse condemnation even though the Taft Speedway owners did not accept a buyout after they remediated their properties. What is the cost of this and who pays for it? 47. How many construction or other easements or right of ways would the city need to get to build the levee? From whom would these need to be obtained? What is the projected time frame to get these easements if they are not voluntarily sold to the city? What are the costs? 48. Will the city have to condemn any property to build the levee or implement other flood mitigation? If so, what and how much? From whom? How long is the condemnation process expected to take if consent is not voluntarily given? 49. It is likely that work would have to be done on Idyllwild's property if flood mitigation is pursued. Is the city required to get permission or legal property rights to proceed on Idyllwild property? If so, is from whom is permission required "board or majority or unanimous consent required? What will the city do to appease those owners in Idyllwild who do not want the levee or other flood mitigation? What happens if some Idyllwild owners do not agree to flood mitigation on their property? What would be the costs of the city's condemning an Idyllwild building or two to get the levee built? Have the owners of the impacted condos been notified? Would Iowa City have to get the consent of all condo owners since the owners have an undivided interest in the whole? Has anyone explained to the condo owners closest to Taft Speedway what the footprint of the levee or other flood mitigation would be? Why didn't city staff better investigate this before filing the application? 50. The presence of the levee may stop groundwater from escaping from Idyllwild and, if Iowa City is hit with a rainfall like Dubuque recently received, the groundwater couldn't be pumped out fast enough to avoid causing property damage. This damage might not be insured. Property owners can purchase flood insurance to cover damage caused by flooding and water back up coverage to cover some damage caused by water backup. Purchasing insurance to cover damage caused by groundwater is much more problematic, and may, in fact, be unavailable. Even if Idyllwild owners could get insurance for damage caused by groundwater one time, it is unlikely to be available a second time. What do you advise Idyllwild owners to do about this? 51. Some Idyllwild residents have indicated they were not eligible for a buyout. More accurately, Idyllwild condominium owners would have had to reach agreement on a buyout because of how condominiums are owned. Because they could not reach agreement and some owners wanted to be eligible for relief funding, Idyllwild made a formal request before the Iowa City City Council Special Formal meeting on October 6, 2008, to "not be included on the FEMA hazard mitigation grant program buyout list." (This is available from Iowa City's public documents.) In light of this, it seems more than a little ironic for anyone in Idyllwild to complain it is okay to build a levee and flood Taft Speedway residents because the Taft residents rejected a buyout. In fact, Taft Speedway residents have lived along the river for far longer than Idyllwild residents, and the Taft Speedway residents have admirably accepted the risks of living along the river. The Idyllwild residents, who did purchase property along a river should likewise accept the risk. 52. A levee cannot be placed on property purchased with HMGP (FEMA) funds. You can confirm this with Ken Sessa of FEMA and John Wageman of Iowa Homeland Security and Emergency Management. Iowa City's own buyout map shows that 3 properties on Taft Speedway were purchased with HMGP funds. Favoring one group of "elite" citizens at the expense of others is wrong. 53. No one can know what changes in terrain and landscape will occur over time. How will your report and advice address this? 54. Where does the trailer park drain to? Where does the Peninsula and the Frakes development and other developments drain to? If they drain into Idyllwild, how does the city plan to handle this if flood mitigation is pursued? If the city pushes for further development of the Peninsula, how will this impact how the Peninsula drains and any proposed flood mitigation? If flood mitigation for Idyllwild is pursued, where does the city intend to pump the water from the dry side to? Will the city be dumping more water on the Taft Speedway residents when the

river rises in the future? 55. Not all of Idyllwild condo owners support the levee. Bob Benson, an Idyllwild resident, wrote a letter to the editor of the Press Citizen strongly opposing the levee. I will forward this to you by separate email. 56. What is the answer to the issue Cliff Pirnat raised at the recent Parkview Church meeting? Why in 2008 was the water proportionately so much higher in Iowa City than the Amanas when compared to the 1993 flood? 57. Were all areas used in the flood model and impacting the watershed gauged? I understand some gauges were broken and there may not be much history available there? Is this so? 58. What projected impact did the volume of storage lost in the Coralville Reservoir due to sedimentation have? Why couldn't the Coralville Reservoir be made deeper? Why couldn't the Iowa River under the Park Road bridge be made deeper? 59. My overwhelming impression is that there was not enough prior information of large scale flood patterns to accurately create a flood model for future use "in other words, the flood model is a good guess? Would you comment in detail about this? 60. What would the impact on water surface elevations be of getting rid of the Burlington St. dam? 61. Iowa City's application for a levee to protect Idyllwild and the Parkview Church was sloppy at best and pitted residents and neighborhoods against each other leaving at least some residents with the impression that the city is favoring a neighborhood that is perceived as being well off against other neighborhoods perceived as being less well off. Does Iowa City want to engage in this kind of class discrimination? 62. Gary Davisson of Taft Speedway asked at the meeting at the Parkview Church "what about the animals? " I would "How will you protect the birds, including but not limited to, bald eagles, their nesting sites and habitats? The wildlife and birds predate the Idyllwild and the levee. The raising of Taft Speedway would create a change in use that could impact all forms of wildlife. 63. The application filed by Iowa City staff was misleading. For example, the application project description states that "The Idyllwild levee project will provide an alternate access to the Peninsula neighborhood! Once constructed, the levee (with roadway on top) would provide a permanent access to the Peninsula neighborhood !! Unfortunately, the city permitted the Peninsula development knowing it only had one access, and the city does not own the property necessary to complete a road into the Peninsula. The city could not provide permanent access to the Peninsula using the levee, and the application was deceptive in this regard. If the council approves the levee and the city starts building it with a road on top, will the city have to repay federal funds if it cannot complete the road into the Peninsula because it does not own the necessary property" fact well known to the city from the beginning? 64. Next, the application states that "Foster Road is inundated during 100 year flood events, forcing the evacuation of the entire neighborhood!!! This should certainly be verified using aerial photographs of the 1993 and 2008 floods. I do not believe that Foster Road flooded during 1993, and it was not fully inundated during 2008. There was access to the Peninsula during the 2008 flood through the Ed Cole trailer park. This access was used by emergency vehicles and by some of the residents to access their properties. Access through the Ed Cole/trailer park property could be developed for everyday use. 65. The application goes on to state that "the proposed levee/road length is 4200 LF and would be constructed above the 500 year flood elevation on the existing footprint of Taft speedway and No Name Road.I'm no engineer; however, even I know this is not true as Taft Speedway is a very narrow road and the levee will need to be wide to accommodate the 500 year height plus three feet with a road and bike trail on top. The levee if built, will intrude into the front yards of the people that live in the homes along Taft Speedway, a fact the city failed to affirmatively state in its application. The proposed levee may also require condemning an Idyllwild unit or two or other property and relocating the Idyllwild pond along Taft Speedway. What is the estimated width and height of the levee and what will be its footprint? Was the Stanley report's diagram accurate? 66. In section 10 of the application, the city checked "Urgent Need" as the national object to be met. We're now three years beyond the flood and there is still no "serious and immediate threat to the health and welfare of the community" This community is doing far better than most others during this bad economic cycle. The money could and should be better spent elsewhere. 67. Given the number of front yards impacted and the probable costs of future litigation, it is likely that the city underestimated the "Related Construction Costs" category on page 5 of the application. What is your estimate of "related construction costs" and what does it specifically include? 68. On page 6, the application notes that "Foster Road - provides the single means of access to the Peninsula neighborhood and strongly implied that "the entire Peninsula neighborhood was evacuated" during the 100 year flood. 1) Iowa City knowingly developed the Peninsula with one access and shouldn't use disaster money to solve an existing and known planning problem (this was accurately pointed out by Cathy Wilcox at the recent Parkview Church meeting), 2) I do not recall Foster Road flooding during the 1993 flood and this should be checked, and 3) Foster Road could be raised to protect against a 2008 flood which would be millions of dollars less expensive than a levee. How many millions of dollars less expensive would raising Foster Road be than the alternatives you identify? The application does not state that Foster Road would not need to be raised very much to provide access during future events. 69. CDBG disaster money should not be used to add a bike trail that did not exist before the flood. In addition, the city's claims that it needs to provide "assurance to those otherwise reluctant to

move back to the neighborhood is misplaced." The condos are full and the Peninsula problems, which existed long before the 2008 flood, cannot be attributed to the flood. 70. The application states on page 8 that "[t]he path will provide pedestrian accommodations to an area where there were previously none." This is not true plus Iowa City doesn't own the necessary property to create a trail where the planners want one. I can easily walk along the Foster Road sidewalk into the Peninsula. I can also easily walk from Coralville across the bridge into the Peninsula. Adding a road on top of a levee won't help pedestrian access, even during a flood. No one is allowed to drive on top of a levee during a flood event. Confirm this with the National Guard. 71. The application fails to state that during 2008 Idyllwild was flooding not just from river water but from ground water as well. The levee will not protect against this and may, in fact, trap the groundwater. 72. The timeline for the project stated in the levee has been blown. Approval should be rescinded. 73. Interestingly, the city failed in its application to mention 1) affirmatively the residents on Taft Speedway, 2) the number of minorities adversely impacted by the levee (why didn't this show up in the Minority Impact Statement?), and 3) that there was infrastructure, homes, and people on the other side of the river who would be adversely impacted by the levee. 74. The city did append some correspondence from Taft Speedway residents but failed to affirmatively mention them in the application. Nevertheless, the state approved the application with very little, if any review, apparently in a hurry to get 2008 disaster money spent. Now is the time to ask whether this application would have been approved if all facts had been disclosed. Surely there are higher priority disaster needs across Iowa for this money than a levee to protect an elite private condominium development? 75. How much per Idyllwild unit would any flood mitigation alternative cost? 76. Iowa City's floodgate project is also a bad idea. Why is Iowa City cooperating with Coralville on this floodgate and other proposed flood mitigation by Coralville--especially since it appears Coralville is bribing Von Maur with millions of dollars to leave Iowa City? 77. Iowa City should clean up the river and use its connection to the river as a marketing feature instead of building unwanted flood mitigation. The likelihood of Idyllwild flooding was well publicized before it was built, the river was clearly evident when people bought property along its banks, and both sides of the river should be similarly situated when it comes to flooding, flood mitigation, including a levee or flood wall, should not be built on one side to endanger the other. Additionally, the Peninsula was knowingly developed with only one access, and Peninsula residents understood the same. Taxpayers should not be forced to bail out any Idyllwild owners or Peninsula residents. The property tax base can be protected through the purchase of flood insurance, and Foster Road can be raised much less expensively than a levee can be built. Frankly, Iowa City's entire application for funding is suspect. The proposed Idyllwild levee project should go away and no flood mitigation should be built

Notes:

Topic(s):

Date Received: 9/26/2011 Comment ID: 33 ☐ Closed

Name: Murphy, Mary

Organization:

Responder:

Comment Source: Website

Comment: I wanted to add an additional comment about alternative flood mitigation for Idyllwild. I do not support providing a flood wall or other flood mitigation to Idyllwild, whether federal and/or Iowa City taxpayers pay for it or the condo association and others do. It likely wouldn't work and/or might send water elsewhere.

Notes:

Topic(s):

Name: Murphy, Mary

Organization:

Responder:

Comment Source: Email

Comment: Dear Mr. Engel, Please find my comments below. I've also attached them as a WORD file. I support no flood mitigation (temporary or otherwise) for Idyllwild and the Parkview Church and believe this to be the worst kind of government boondoggle. I submitted these comments to website link for this study; however, the picture below showing how little of Foster Road actually flooded during 2008 did not go through your website. I ask that your company pay particular attention to how little of Foster Road had water on it during the 2008 flood. Thank you for your attention to these matters.
Sincerely,
Mary Murphy

1. When was the Coralville Dam built? At what time was each individual Idyllwild building completed? Did any Idyllwild buildings flood in 1993? If so, to what extent, and is there photographic documentation to support the same? Isn't it true that the Idyllwild development has flooded only once since it was built, and that was during the flood of 2008?

2. The best and most fair solution is to do nothing. The contention that there must be a taxpayer funded solution (levee, temporary, or otherwise) to Idyllwild is wrong. Idyllwild was knowingly built on a bog/wetland and in the riverbank. Any flood mitigation for Idyllwild rewards bad planning, is horrible public policy, failed last time and should not be invested in a second time. Idyllwild residents and the condo association should purchase flood insurance and the condo association should set up a reserve for damages not covered by flood insurance. Your report should reflect this.

3. Asking Iowa City property owners to subsidize Idyllwild owners with a taxpayer paid levee or other flood mitigation at the expense of Taft Speedway and Parkview Terrace homes, which existed long before Idyllwild was even built, is ludicrous. The list of Idyllwild owners that would be protected includes those listed below. See <http://iowacity.iowaassessors.com/>. I support no flood mitigation for Idyllwild!

A) Bob Bowlsby, the current athletic director for Stanford and the former athletic director of the University of Iowa, and son Kyle own 118 Pentire Circle.

B) Terri Miller Chait of Idyllwild Development II, Inc. owns 9 condos + 12 parcels of land (not just the several properties she acknowledged at the recent Parkview Church meeting).

C) Bocway Investments, LLC owns 14 condos,

D) Hills Bank owns 3 units,

E) Quad Hawk, Inc. owns 4 condos (with one of the principals likely owning another), and

F) Jeff Miller Construction owns 3 condos.

G) Sally Cline, a realtor for Iowa Realty, who might financially benefit from the future sales of Idyllwild units. Kurt Kimmerle is also listed at her address.

4. Flood insurance will protect the tax base, and it's wrong to punish the people on Taft Speedway and across the river because the Idyllwild board and residents failed to purchase flood insurance prior to the 2008 flood.

5. The Idyllwild condo association likely now has flood insurance. The developer and the condo association may be pushing for a levee or other flood mitigation because they are concerned about being sued if nothing is done and the development floods again. This, if true, is not Iowa City's nor its taxpayers' problem to solve.

6. Some Idyllwild units have been rented since 2008. The condo association claims rentals will only be allowed for a few years then the property must revert to owner occupied housing. I'm skeptical. There are enough owners of rental units in Idyllwild that they could vote to maintain rentals into the future. Idyllwild's by-laws could also be amended. You can search rental permits in Iowa City online at <http://www.iowa-city.org/icgov/apps/gen/rentals.asp>.

7. Currently, Idyllwild is under-assessed by the assessor's office, and Iowa City could be deriving more taxes. An Iowa City assessor stated that the units' assessed value reflects concerns about the potential liability of buyers as evidenced by their liability during the 2008 flood. This concern is

misplaced. About ½ of Idyllwild units are rented out and the owners are receiving fair market rent—thus getting 100% use out of their investment. Their investment and the investment of those owners who occupy their homes should now be protected by flood insurance so their liability is much more limited than during the 2008 flood.

8. Further, one reason Idyllwild owners had so much liability during the 2008 flood is because the condo association made an overly expensive contract for cleanup and required all owners to contribute. The cleanup company seemed to know what FEMA would pay residents and charged accordingly. This cost was much more than most other Iowa City water damaged property owners paid. If there is a next flood, the condo association will surely make a wiser clean up contract and minimize their liability. In fact, it could make arrangements for such a contingency now.

9. Some investors in Idyllwild bought from flood victims who sold more cheaply than they could have. Find Idyllwild rentals by using Google; Idyllwild units have been advertised on Bocway's website, Craigslist, and other places. Taxpayers should not be asked to subsidize the profits of these investors.

10. At the end of the day, the Idyllwild owners own what they bought—the intrinsic value remains the same, the residences can still be used for their intended purposes and the land can still be walked on.

11. The other side of the river, including Iowa City Park and Parkview Terrace, is left unprotected. The water's going somewhere and no one else wants it. Even a few inches could mean the difference between homes and downstream businesses flooding and not flooding. Parkview Terrace is much better off without a levee—this is true regardless of whether the Park Road bridge is replaced.

12. Instead of a levee or other non-insurance flood mitigation for Idyllwild, raise Foster Road, dead end Taft Speedway, and save taxpayers millions of dollars. How much money would be saved by doing this? Please show the cost savings under Iowa City's Gateway project and this project. CDBG disaster funds are federal tax dollars. General obligation bonds issued by Iowa City need to be repaid with property taxes. Idyllwild is not essential public infrastructure like a hospital or fire station—don't spend our tax money on a levee or other flood mitigation for it!

13. If efforts to provide flood mitigation (levee or other) adversely impact my home in the future, we will sue. Others may also. The costs of any lawsuits should be considered in any cost benefit analysis of flood mitigation.

14. Levees are ugly and no amount of dressing them up can make them not look like a levee. Flood mitigation on Taft Speedway can be seen from across the river in Iowa City Park's and is a horrible legacy to leave those who enjoy the river view from the Iowa City Park river trail.

15. Does or did the Hayek law firm (past or present) represent any of the owners of Idyllwild condominiums or developers of the Idyllwild area? If so, please provide details.

16. An Iowa City planner has shared that the university may be interested in the Parkview Church property for a dorm or a private developer for more housing. I've also seen documentation on the city's website that suggests more Idyllwild units could be added. Permitting more development in this area that should be a bog/wetland is horrible public policy and potentially expensive for taxpayers.

17. Does any party other than the Parkview Church have an interest in the Parkview Church property? Has any party or parties purchased an option on or other interest in the property? Does the university have an interest in the Parkview Church property?

18. Proponents of the levee seem to believe that it is okay to flood some property owners and/or put them on the "wrong" side of a levee because these owners were offered a buyout; however, this rationale is faulty and misleading. All property owners in Parkview Terrace were not and are not eligible for a buyout, and many impacted property owners started repair work because they could not afford to wait around to see if the city came up with money for a buyout.

19. Plus, a requirement of using federal money to buy out properties was that the buyout be voluntary. Frightening Iowa City residents into selling their homes by threatening them with flood mitigation which could push future water at them robs the buyout of any voluntary nature and certainly violates the spirit of the federal buyout requirements, if not the legal requirements.

20. My family, who lives in Parkview Terrace, is not eligible for a buyout and doesn't want one. There are other owners who were not eligible for a buyout. There is no effective buyout strategy for Parkview Terrace and Iowa City will not own 100% of the homes in Parkview Terrace after the "voluntary" buyouts are complete.

21. A Parkview Terrace resident, accurately explained at the recent meeting that people put money back into their houses before the city legally offered them a buyout and that they could not afford to later take a financial loss by accepting the buyout which only became available later.

22. What is the specific date the city had the money in hand to make a "legal buyout offer" that was capable of being accepted to 1) eligible Parkview Terrace residents, and 2) Taft Speedway residents? Note, I am not asking for the date that the city mentioned a buyout may be possible or asked about interest in a buyout.

23. A levee, if built, it will be very large and noticeable, and Idyllwild may not attract the same professional/high income demographics it did in the past. The levee would remove Idyllwild's connection to the river. What would the impact on the Idyllwild property tax base be of a big ugly levee next to the condominiums?

24. Iowa City's public works department's failure to promptly demolish vacant homes is creating neighborhood blight in Parkview Terrace and helping suppress property values there. These are homes which had been completed rehabilitated after the flood.

25. Do all Idyllwild condo owners understand how tall and wide the levee would be? How close would this levee physically come to any of the closest Idyllwild units? Will any Idyllwild condo units need to be sacrificed? What happens to the Idyllwild pond closest to Taft Speedway if flood mitigation to protect Idyllwild is pursued?

26. City staff knowingly permitted development of the Peninsula with only one access point to try to create a "new urbanism" development. (Other private owners who have wanted to develop property with only one access point have been denied.) The Peninsula development failed during a time period when other housing developments were successful. This information can be verified by looking at the original plans and due dates for the Peninsula. Our taxes have subsidized the Peninsula enough in terms of paying for city staff, infrastructure, the single family new construction subsidized home program, etc. Simply looking at sales to determine whether the Peninsula has been successful is misleading since many of the sales have been subsidized. All subsidies and future development of the Peninsula should stop. Disaster grants should not be abused to solve a known planning problem which existed before the flood.

27. If city staff wants a second access point into the Peninsula, it should purchase land from Ed Cole or his company as he has offered publicly to sell it to him, and the city has said this might occur from the beginning. The problem of a lack of a secondary access road into the Peninsula was created by Iowa City staff and past councils. People have had homes along Taft Speedway long before the Peninsula and Idyllwild were developed and fairness dictates not disturbing the Taft Speedway owners' property rights.

28. Idyllwild was knowingly built in a swamp/bog/wetland. Former city councils were warned by many, including Taft Speedway residents and Professor Kennedy, whose specialty was river hydraulics and who was the chairman of the National Academy of Science Committee on Hydrodynamic Computer Models for Flood Insurance Studies, over the years, not to permit development. Despite this, Iowa City permitted development. Many long term Iowa City residents are very familiar with the Idyllwild property and understand it was built in a floodplain. In effect, Taft Speedway residents have been whistleblowers. Penalizing the whistle blowers by building a huge levee or other flood mitigation in front of their homes is very bad public policy. University of Iowa Professor Kennedy's written statement to the Iowa City Council about the Peninsula is dated January 9, 1990, and is available.

29. University of Iowa College of Law Professor Samuel M. Fahr sent a letter to Iowa City Council dated January 17, 1990, warning the council not to develop Idyllwild. This is also available.

30. I recall the controversy when Idyllwild was developed, many of the owner occupiers of Idyllwild are older than I am, have lived in Iowa City for years, and should remember it as well. The possibility of flooding was a risk that was knowingly assumed by many who bought property in Idyllwild.

31.Iowa City historian, Irving Webber, wrote much about the Iowa River in the Idyllwild area and his work is still readily available (check <http://digital.lib.uiowa.edu/weber/index.php> or the U of I library or Prairie Lights Bookstore for his books).

32.The flood model does not show what the impact of the levee would be on the other side of the river independent of other projects. The impact on the entire area under the river bluffs, including Iowa City Park and all surrounding infrastructure (which review should also include some impacted residences along lower Park Road and Lee Street) should be analyzed. What is the projected impact of any proposed Idyllwild flood mitigation on the other side of the river independent of other projects? What is the uncertainty associated with this projected impact? The current flood modeling assumes that the storm sewers of Parkview Terrace will be updated. This has not occurred and no money is budgeted for this project. Any future modeling should take this into account. Evaluate floods of all stages.

33.Despite all of the known expertise, no one accurately predicted where the water would go and to what extent during the recent Hurricane Irene. If the Army Corps of Engineers truly understood where water goes, there would be better predictions about flooding. What guarantees will the city make about its consultant's projections about where the water will go if flood mitigation is pursued for Idyllwild? Is the Iowa City Council willing to issue hold harmless agreements to those of us who are potentially adversely impacted by flood mitigation?

34.The flood model, based on free software from the Army Corps of Engineers, may be the best model that is available but it is far from perfect and should not be relied upon with the certainty with which some Iowa City staffers are using it.

35.Iowa City's flood model, building upon the Ayres flood model (which used software from the Army Corps of Engineers), contains many assumptions and inputs which are not available to the public and may or may not be accurate. David Purdy and Jeff Davidson, of Iowa City staff, need to be educated about the flood model and to what extent any flood model should be relied upon. The projected water surface elevations have been used by some city staffers as though the numbers are set in stone. Will you educate Iowa City staffers and the city council about flood models? What assumptions are used in the flood model relied upon by Iowa City? Please list every assumption and list with specificity where human judgment was applied in using the model. I understand the flood model can predict the 2008 flood model in retrospect; however, floods have never been the same and any future floods will not be exactly like 2008.

36.Who controls the use of the flood model to predict the impact of the proposed alternatives, including a levee, on Parkview Terrace? Who will supervise the consultant who controls the use of the flood model? It should not be Iowa City staff who have applied for and pushed for flood mitigation for Idyllwild. It should be someone independent of Iowa City staff.

37.Some city staffers seem emotionally attached to getting flood mitigation for Idyllwild and may not make or recommend a decision which is in the best interests of the city and its property owners. Could the consultant report directly and independently to Tom Markus, the city manager? Some of the Idyllwild owners have sent comments directly to David Purdy on Iowa City staff. Is Mr. Purdy soliciting comments in favor of Idyllwild's flood mitigation and forwarding them to city council? This bias, if it exists, is a potential concern.

38. The Parkview Terrace storm sewers should be updated. This becomes an issue, especially in winter time when the streets ice and becomes difficult to drive on. Iowa City is wrong not to budget for and maintain this type of necessary infrastructure. The city's flood model assumed Parkview Terrace's storm sewer improvements would be made. In fact, the city should properly repair and maintain all known existing infrastructure problems before taxpayer subsidized flood mitigation is provided for a private condo development.

39.How much money was spent to restore Iowa City Park following the flood of 2008?

40.In a flooding event, there are likely to be multiple reasons for flooding. In 2008, the Iowa River flooded, it rained, and water came up from the ground. The sandbags didn't work and a lot of money and time would have been saved had people understood this sooner. Even though pumps were trying to pump water out from behind the sandbags, the water came up faster than the pumps could pump. If a levee or other flood mitigation is built, it won't stop water coming up from the ground and it is likely

that pumps may not work. Even if they do, they are going to be expensive to procure, maintain, and operate. How much are these costs? Who will be responsible for cleaning clogged drains during a flood (per Bob Benton's comments at the Parkview Church meeting and his editorial to the Press Citizen)?

41. Unlike the Idyllwild neighborhood, the Parkview Terrace neighborhood did not hire an expensive consultant. We've all heard from Terri Miller Chait (who is behind Idyllwild Development II, Inc. which owns 9 condos and 12 parcels of land) how many sandbags it would take to protect Idyllwild; however, what is the point? Whether you use sandbags or a flood wall, the protection is illusory. The fact is water comes up from the ground and it comes from the sky along with the river, and such mitigation measures are likely a waste of taxpayer dollars. Sandbags or a flood wall won't stop water from the coming up through the ground or the sky.

42. There are massive tiling efforts going on in Iowa right now (probably for fear of future regulation). This will drain more water into the rivers. Plus there is a lot of tiling that no one knows about. How does this impact future flooding events in Parkview Terrace and the surrounding area? Parkview Terrace remains better off without flood mitigation for Idyllwild and the Parkview Church.

43. The Idyllwild condo buildings could be raised. One commentator at the recent Parkview church meeting accurately pointed out that the University of Iowa moved Calvin Hall using oxen. The large Czech museum in Cedar Rapids was recently moved. Mary Katherine Wallace of Idyllwild has said they would raise their buildings if they could—this can be done and so long as taxpayers don't fund it, leave them with that option.

44. Iowa City's application for money to help build the levee stated the levee would provide "a permanent access to the Peninsula neighborhood...." Raising Foster Road, less expensive than building a levee, will achieve the city's goal. Why not raise the part of Foster Road which flooded?

45. Foster Road did not flood in 1993 and did not flood much in 2008. Please verify how much exactly Foster road flooded in 2008? Don't rely on city staff to determine how much of Foster Road flooded—look at aerial photographs. You can see from the picture below of Idyllwild and Foster Road (at the right of the picture) that Foster Road didn't flood much in 2008.

46. Iowa City could easily be liable for damages for inverse condemnation even though the Taft Speedway owners did not accept a buyout after they remediated their properties. What is the cost of this and who pays for it?

47. How many construction or other easements or right of ways would the city need to get to build the levee? From whom would these need to be obtained? What is the projected time frame to get these easements if they are not voluntarily sold to the city? What are the costs?

48. Will the city have to condemn any property to build the levee or implement other flood mitigation? If so, what and how much? From whom? How long is the condemnation process expected to take if consent is not voluntarily given?

49. It is likely that work would have to be done on Idyllwild's property if flood mitigation is pursued. Is the city required to get permission or legal property rights to proceed on Idyllwild property? If so, is from whom is permission required—board or majority or unanimous consent required? What will the city do to appease those owners in Idyllwild who do not want the levee or other flood mitigation? What happens if some Idyllwild owners do not agree to flood mitigation on their property? What would be the costs of the city's condemning an Idyllwild building or two to get the levee built? Have the owners of the impacted condos been notified? Would Iowa City have to get the consent of all condo owners since the owners have an undivided interest in the whole? Has anyone explained to the condo owners closest to Taft Speedway what the footprint of the levee or other flood mitigation would be? Why didn't city staff better investigate this before filing the application?

50. The presence of the levee may stop groundwater from escaping from Idyllwild and, if Iowa City is hit with a rainfall like Dubuque recently received, the groundwater couldn't be pumped out fast enough to avoid causing property damage. This damage might not be insured. Property owners can purchase flood insurance to cover damage caused by flooding and water back up coverage to cover some damage caused by water backup. Purchasing insurance to cover damage caused by groundwater is

much more problematic, and may, in fact, be unavailable. Even if Idyllwild owners could get insurance for damage caused by groundwater one time, it is unlikely to be available a second time. What do you advise Idyllwild owners to do about this?

51. Some Idyllwild residents have indicated they were not eligible for a buyout. More accurately, Idyllwild condominium owners would have had to reach agreement on a buyout because of how condominiums are owned. Because they could not reach agreement and some owners wanted to be eligible for relief funding, Idyllwild made a formal request before the Iowa City City Council Special Formal meeting on October 6, 2008, to “not be included on the FEMA hazard mitigation grant program buyout list.” (This is available from Iowa City’s public documents.) In light of this, it seems more than a little ironic for anyone in Idyllwild to complain it is okay to build a levee and flood Taft Speedway residents because the Taft residents rejected a buyout. In fact, Taft Speedway residents have lived along the river for far longer than Idyllwild residents, and the Taft Speedway residents have admirably accepted the risks of living along the river. The Idyllwild residents, who did purchase property along a river should likewise accept the risk.

52. A levee cannot be placed on property purchased with HMGP (FEMA) funds. You can confirm this with Ken Sessa of FEMA and John Wageman of Iowa Homeland Security and Emergency Management. Iowa City’s own buyout map shows that 3 properties on Taft Speedway were purchased with HMGP funds. Favoring one group of “elite” citizens at the expense of others is wrong.

53. No one can know what changes in terrain and landscape will occur over time. How will your report and advice address this?

54. Where does the trailer park drain to? Where does the Peninsula and the Frakes development and other developments drain to? If they drain into Idyllwild, how does the city plan to handle this if flood mitigation is pursued? If the city pushes for further development of the Peninsula, how will this impact how the Peninsula drains and any proposed flood mitigation? If flood mitigation for Idyllwild is pursued, where does the city intend to pump the water from the dry side to? Will the city be dumping more water on the Taft Speedway residents when the river rises in the future?

55. Not all of Idyllwild condo owners support the levee. Bob Benson, an Idyllwild resident, wrote a letter to the editor of the Press Citizen strongly opposing the levee. I will forward this to you by separate email.

56. What is the answer to the issue Cliff Pirnat raised at the recent Parkview Church meeting? Why in 2008 was the water proportionately so much higher in Iowa City than the Amanas when compared to the 1993 flood?

57. Were all areas used in the flood model and impacting the watershed gauged? I understand some gauges were broken and there may not be much history available there? Is this so?

58. What projected impact did the volume of storage lost in the Coralville Reservoir due to sedimentation have? Why couldn’t the Coralville Reservoir be made deeper? Why couldn’t the Iowa River under the Park Road bridge be made deeper?

59. My overwhelming impression is that there was not enough prior information of large scale flood patterns to accurately create a flood model for future use—in other words, the flood model is a good guess? Would you comment in detail about this?

60. What would the impact on water surface elevations be of getting rid of the Burlington St. dam?

61. Iowa City’s application for a levee to protect Idyllwild and the Parkview Church was sloppy at best and pitted residents and neighborhoods against each other leaving at least some residents with the impression that the city is favoring a neighborhood that is perceived as being well off against other neighborhoods perceived as being less well off. Does Iowa City want to engage in this kind of class discrimination?

62. Gary Davisson of Taft Speedway asked at the meeting at the Parkview Church “what about the animals?” I would add—How will you protect the birds, including but not limited to, bald eagles, their nesting sites and habitats? The wildlife and birds predate the Idyllwild and the levee. The raising of Taft Speedway would create a change in use that could impact all forms of wildlife.

63. The application filed by Iowa City staff was misleading. For example, the application project description states that “The Idyllwild levee project will provide an alternate access to the Peninsula neighborhood.... Once constructed, the levee (with roadway on top) would provide a permanent access to the Peninsula neighborhood” Unfortunately, the city permitted the Peninsula development knowing it only had one access, and the city does not own the property necessary to complete a road into the Peninsula. The city could not provide permanent access to the Peninsula using the levee, and the application was deceptive in this regard. If the council approves the levee and the city starts building it with a road on top, will the city have to repay federal funds if it cannot complete the road into the Peninsula because it does not own the necessary property—a fact well known to the city from the beginning?

64. Next, the application states that “Foster Road is inundated during 100 year flood events, forcing the evacuation of the entire neighborhood.....” This should certainly be verified using aerial photographs of the 1993 and 2008 floods. I do not believe that Foster Road flooded during 1993, and it was not fully inundated during 2008. There was access to the Peninsula during the 2008 flood through the Ed Cole trailer park. This access was used by emergency vehicles and by some of the residents to access their properties. Access through the Ed Cole/trailer park property could be developed for everyday use.

65. The application goes on to state that “the proposed levee/road length is 4200 LF and would be constructed above the 500 year flood elevation on the existing footprint of Taft speedway and No Name Road.” I’m no engineer; however, even I know this is not true as Taft Speedway is a very narrow road and the levee will need to be wide to accommodate the 500 year height plus three feet with a road and bike trail on top. The levee if built, will intrude into the front yards of the people that live in the homes along Taft Speedway, a fact the city failed to affirmatively state in its application. The proposed levee may also require condemning an Idyllwild unit or two or other property and relocating the Idyllwild pond along Taft Speedway. What is the estimated width and height of the levee and what will be its footprint? Was the Stanley report’s diagram accurate?

66. In section 10 of the application, the city checked “Urgent Need” as the national object to be met. We’re now three years beyond the flood and there is still no “serious and immediate threat to the health and welfare of the community....” This community is doing far better than most others during this bad economic cycle. The money could and should be better spent elsewhere.

67. Given the number of front yards impacted and the probable costs of future litigation, it is likely that the city underestimated the “Related Construction Costs” category on page 5 of the application. What is your estimate of “related construction costs” and what does it specifically include?

68. On page 6, the application notes that “Foster Road...provides the single means of access to the Peninsula neighborhood” and strongly implied that “the entire Peninsula neighborhood was evacuated”....during the 100 year flood. 1) Iowa City knowingly developed the Peninsula with one access and shouldn’t use disaster money to solve an existing and known planning problem (this was accurately pointed out by Cathy Wilcox at the recent Parkview Church meeting), 2) I do not recall Foster Road flooding during the 1993 flood and this should be checked, and 3) Foster Road could be raised to protect against a 2008 flood which would be millions of dollars less expensive than a levee. How many millions of dollars less expensive would raising Foster Road be than the alternatives you identify? The application does not state that Foster Road would not need to be raised very much to provide access during future events.

69. CDBG disaster money should not be used to add a bike trail that did not exist before the flood. In addition, the city’s claims that it needs to provide “assurance to those otherwise reluctant to move back to the neighborhood is misplaced.” The condos are full and the Peninsula problems, which existed long before the 2008 flood, cannot be attributed to the flood.

70. The application states on page 8 that “[t]he path will provide pedestrian accommodations to an area where there were previously none.” This is not true plus Iowa City doesn’t own the necessary property to create a trail where the planners want one. I can easily walk along the Foster Road sidewalk into the Peninsula. I can also easily walk from Coralville across the bridge into the Peninsula. Adding a road on top of a levee won’t help pedestrian access, even during a flood. No one is allowed to drive on top of a levee during a flood event. Confirm this with the National Guard.

71.The application fails to state that during 2008 Idyllwild was flooding not just from river water but from ground water as well. The levee will not protect against this and may, in fact, trap the groundwater.

72.The timeline for the project stated in the levee has been blown. Approval should be rescinded.

73.Interestingly, the city failed in its application to mention 1) affirmatively the residents on Taft Speedway, 2) the number of minorities adversely impacted by the levee (why didn't this show up in the Minority Impact Statement?), and 3) that there was infrastructure, homes, and people on the other side of the river who would be adversely impacted by the levee.

74.The city did append some correspondence from Taft Speedway residents but failed to affirmatively mention them in the application. Nevertheless, the state approved the application with very little, if any review, apparently in a hurry to get 2008 disaster money spent. Now is the time to ask whether this application would have been approved if all facts had been disclosed. Surely there are higher priority disaster needs across Iowa for this money than a levee to protect an elite private condominium development?

75.How much per Idyllwild unit would any flood mitigation alternative cost?

76.Iowa City's floodgate project is also a bad idea. Why is Iowa City cooperating with Coralville on this floodgate and other proposed flood mitigation by Coralville--especially since it appears Coralville is bribing Von Maur with millions of dollars to leave Iowa City?

77.Iowa City should clean up the river and use its connection to the river as a marketing feature instead of building unwanted flood mitigation.

The likelihood of Idyllwild flooding was well publicized before it was built, the river was clearly evident when people bought property along its banks, and both sides of the river should be similarly situated when it comes to flooding—flood mitigation, including a levee or flood wall, should not be built on one side to endanger the other. Additionally, the Peninsula was knowingly developed with only one access and Peninsula residents understood the same. Taxpayers should not be forced to bail out any Idyllwild owners or Peninsula residents. The property tax base can be protected through the purchase of flood insurance, and Foster Road can be raised much less expensively than a levee can be built. Frankly, Iowa City's entire application for funding is suspect. The proposed Idyllwild levee project should go away and no flood mitigation should be built

Notes:

Topic(s):

Date Received: 9/27/2011 Comment ID: 43 ☐ Closed

Name: White, Jim

Organization:

Responder: Comment Source: Petition

Comment: Petition signed by 237 individuals regarding the Taft Speedway and No Name Road Flood Mitigation and Iowa City Gateway (Dubuque St and Park Rd Bridge) Projects

Notes:

Topic(s):

Date Received: 9/28/2011 Comment ID: 37 ☐ Closed

Name: Murphy, Mary

Organization:

Responder:

Comment Source: Email

Comment: Please include this letter to the editor of the Press-Citizen newspaper in the comments for the Taft Speedway flood mitigation. Thank you. Mary
Council say no to proposed levee
10:05 PM, Sep. 3, 2011 |
Regarding Bob Elliott's Writers' Group column Aug. 12: This should be the final nail in the coffin regarding the Iowa City Council's decision to consider constructing a levee on Taft Speedway. My wife and I purchased 22 Colwyn Court in Idyllwild Condominium Group in 2000. We relocated from Burlington to one of the most ideal spots to live in Iowa City. We asked whether we should buy flood insurance -- after all, we were going to build our unit only about 1½ blocks from the Iowa River. We were told emphatically, "No. That water level is all controlled by the dam and the Army Corps of Engineers."
We elected to build.
The flood of 2008 was a mistake. From our view, the Corps of Engineers allowed way too much water in the reservoir because it was summertime. When my family drove me by the reservoir three days before the flood, I remarked, "My gosh! I've never seen so much water in the lake."
So, Iowa City Council, don't build a levee down Taft Speedway. Don't hire more engineers to make your decision and waste more money.
And for the final nail in the coffin: My unit had seven feet of water in it. Our insurance agent was surprised because it was clear water. The people down next to the river reported only six feet of dirty river water.
My unit, it turns out, flooded from the hills to the north and from water coming down Foster Road hill from the northwest catch basin that the city built. It got plugged up with debris and floodwater drained eastward, where the city sandbagged between our buildings and the building south of us.
Our condo has been cleaned up like new at a cost of \$67,000. It is being paid for by the city and state with a five-year forgivable loan.
This seems a less expensive way to go than that proposed levee down Taft Speedway.
Robert Benson
Iowa City

Notes:

Topic(s):

Date Received: 10/3/2011 Comment ID: 38 ☐ Closed

Name: Shoemaker, Jaellen

Organization:

Responder:

Comment Source: Website

Comment: While I think your task is extremely difficult, I want to, again, encourage you to do whatever is best to protect Idyllwild residents. I know your decision will make some happy, and some unhappy. I don't like the idea of my view undoubtedly being altered negatively; however, I REALLY don't like the idea of fish swimming through my living room again! You go, people.....good luck

Notes:

Topic(s):

Date Received: 10/7/2011 Comment ID: 40 ☐ Closed

Name: Reisetter, Phil

Organization:

Responder:

Comment Source: Website

Comment: Please build the levee. It is the only way to protect Idyllwild as well as secondary access to the Penniula. With the protection of the levee the value of homes behind it should rise substantially. That would raise the city's tax revenue. Possibly the few houses at the water's edge could be raised to protect them. Homes in mosquito flats could also be elevated. Elevating Idyllwild does not appear feasible.

Notes:

Topic(s):

Date Received: 10/9/2011 Comment ID: 39 ☐ Closed

Name: Pappas, Susie

Organization:

Responder:

Comment Source: Website

Comment: I have been an Idyllwild homeowner for over eight years. I love my home and my neighborhood, but after the 2008 flood, had I been offered a buyout, I would have accepted it without question. However, there was no buyout offer and I have a mortgage to pay, a job at ACT and need a place to live. So, like most of my neighbors, I felt like my only choice was to rebuild and return to Idyllwild. My greatest fear is not that we will experience another flood but that I will never be able to sell my home. I am writing to reiterate my support for the proposed levee that will result from the elevation of Taft Speedway and No Name Road. It was difficult to voice my support at the first public meeting due to the domination of the meeting by those opposed to the project. After that meeting, it occurred to me that 1) we're not talking about a huge area behind the levee. How much could that add to the flooding of properties along the river? 2) Also, I wouldn't dream of objecting to the project to elevate Dubuque Street, even though it will certainly add to the flooding in Idyllwild. Narrow interests should not derail a project that has greater benefits to the entire city. In closing, I appreciate all that the City has done to assist Idyllwild in recovering from the flood. With the City's help and substantial investment from Idyllwild homeowners, Idyllwild homes are occupied and our homeowners association is financially stable. We are continuing to invest in our properties by maintaining roofs, cement, landscaping, etc. We have explored various options for doing flood mitigation on our own, but the scope of any such work is cost prohibitive. Assuming that the engineering challenges can be resolved, e.g. the diversion of storm water from uphill and the closing off of the river from the retention ponds, in the event of another flood, I feel the Taft Speedway levee is the best option to protect Idyllwild. If the levee is approved and the project moves forward, Idyllwild will remain a special, desirable place to live. Without it, I fear the neighborhood will eventually devolve into just one more neighborhood of student housing. Respectfully, Susie Pappas 58 Pentire Circle Iowa City 52245

Notes:

Topic(s):

Date Received: 10/16/2011 Comment ID: 41 ☐ Closed

Name: Walker, Joey

Organization:

Responder:

Comment Source: Website

Comment: The levy project appears to be a waste of taxpayer money. This levy would supposedly protect a private condominium complex and a church which does not pay taxes. This levy might offer protection, but it would have the effect of having more water come into the Parkview Terrace neighborhood. There is also a chance that a levy would just hold the water like a bowl in a downpour on the Idleyld side, and that water from the river would seep in under the levy and flood the Idleyld area anyway. The most fair and least costly alternative for all seems to not build the levy.

Notes:

Topic(s):

Date Received: 10/17/2011 Comment ID: 42 ☐ Closed

Name: Crawford, Mike & Ginger

Organization:

Responder:

Comment Source: Petition

Comment: Petition signed by 83 individuals in the Idyllwild subdivision supporting the City of Iowa City flood mitigation project

Notes:

Topic(s):

Date Received: 10/17/2011 Comment ID: 52 ☐ Closed

Name: Nevin, Ann

Organization:

Responder:

Comment Source: Website

Comment: I want to express my view concerning the flood mitigation for the Taft speedway. I live in the park terrace neighborhood and believe it is wrong for the levee to be built. The levee will displace water to park terrace neighborhood and cause increase risk of flooding. Protecting one neighborhood and causing potential damage to another neighborhood does not seem like a reasonable solution. Please consider fairness in your decision. Thank You, Ann Nevin 891 Park Pl Iowa City, IA 52246

Notes:

Topic(s):

Date Received: 11/13/2011 Comment ID: 53 ☐ Closed

Name: Cline, Sally

Organization: Idyllwild Condo Owners Association

Responder:

Comment Source: Website

Comment: Has the date been set for the second meeting in November?

Notes:

Topic(s):

**APPENDIX F: MEETING MATERIALS FROM
PUBLIC MEETING NO. 1**

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Welcome!

The purpose of today's meeting is to discuss the Taft Speedway Flood Mitigation Study, present opportunities for community participation and gather public input and comments. A map of the Taft Speedway area is located on the back of this handout.

Taft Speedway Flood Mitigation Study

The City of Iowa City is conducting a flood mitigation study for the Taft Speedway area. The Taft Speedway Flood Mitigation Study will identify flood protection alternatives based on public input, and assess the feasibility, cost, and the ability of each alternative to meet project goals.

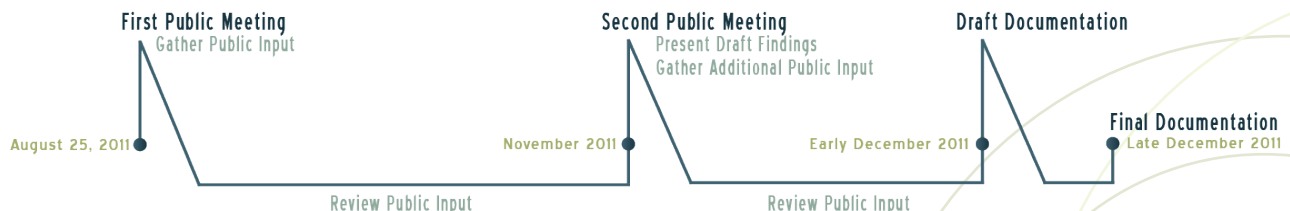
Flood protection alternatives will also be evaluated for impacts that may include:

- Existing Infrastructure
- Cost
- Flood Insurance Rates
- Hydrology
- Flood Protection
- Adjacent Infrastructure Projects
- Hydraulic Impacts
- Property Values
- Residents
- Right-of-Way
- Social & Environmental
- Technical Feasibility
- Utilities

The final report will document the evaluations to serve the City Council in making their decision on the appropriate path forward.

The Study Process

As the graphic below shows, today's public meeting is the first of two that the City of Iowa City will host to engage the public in the study process and gather public input and comments.



We Want Your Input!

- Fill out the survey at today's public meeting
- Visit us at www.icgov.org and click on Taft Speedway Flood Mitigation Study to submit comments
- Attend the next public meeting, scheduled for November 2011

RIDGE RD
DUBUQUE ST



Parkview Church



Idyllwild
Town Homes

NO NAME RD

FOSTER RD

TAFT SPEEDWAY



Elks' Golf Course

Iowa River

NORMANDY DR

PARK PL

EASTMOOR DR

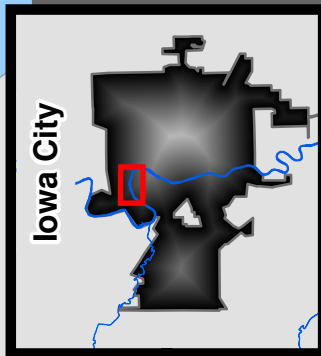
GRANADA CT



Parkview Terrace

OAKRIDGE AVE

WILLIS DR

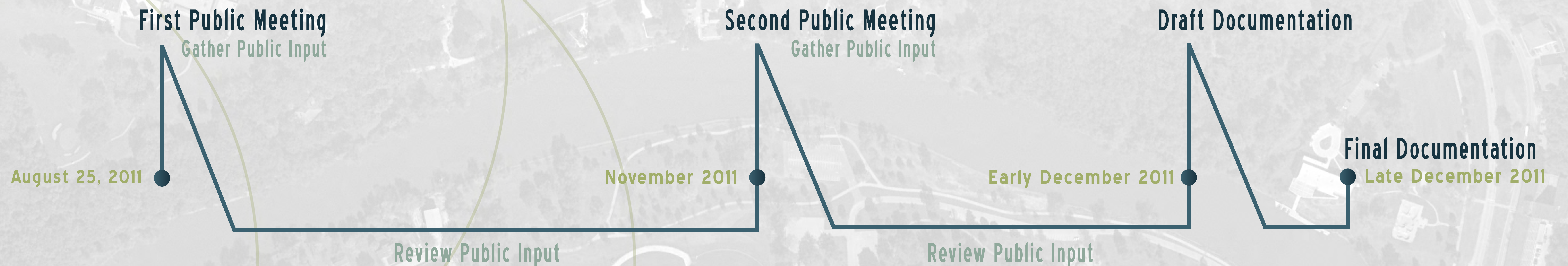


0 250 500
Feet

Taft Speedway Area

Taft Speedway Flood Mitigation Study

Welcome





Complete and submit this survey at the public meeting or follow the directions on the reverse side of this sheet to mail your comments.

In evaluating the alternatives for the Taft Speedway Flood Mitigation Study, what are your top priorities that should be considered?

Name: _____

Street Address: _____

City, State, Zip: _____

Phone: _____

Email: _____

Contact Preference (*circle one*): Phone Email Do Not Contact

How would you like to be informed about the next public meeting? (*circle one*)

Direct Mail Email Newspaper

Additional Comments:

Thank you for your input!

Please fold, fasten with tape and mail. No envelope necessary. Do not staple.

Place
Stamp
Here

Taft Speedway Flood Mitigation Study
c/o Jason Reichart
City of Iowa City
410 E Washington St
Iowa City, IA 52240



Taft Speedway Flood Mitigation Study

Sign-in Sheet

Date: August 25, 2011

Send presentation
+ sign-in sheets
to Michelle Chase
"Court Reporter"

Name (Please Print)	Address (Please supply Zip Code)	Email	Phone	Contact Preference
1. LAUREL Bar	609 Granada Ct	lbar2468@aol.com	321-8266	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
2. Estyl Breazeale Richard	601 Granada Ct.	Breaz@mchsl.com	337-7915	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
3. Terri Miller Chait	452 N 7th Ave I.C. 52245	tmchait@gmail.com	319-338-0354	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
4. L. Maxine Miller	47 Colwyn Ct.	harvmax@aol.com	319-354-4884	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
5. Tammi + Gordon Craft	133 Pentire Cir.	gcraft@earthlink.net	319-351-0289	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
6. Tim White	121 Taft Speedway St.		319-321-1643	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
7. Naomi Novick	1771 Mackinaw Dr IC 52245			<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
8. Douglas Jonas	816 W. Park Rd 52246		338-2879	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
9. Tom Bockenstedt	3555 Dolphin Drive	homes@bh-builders.com	338-0264	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
10. Sally Cline	33 Trevoe Pl	Clinesally@cs.com	331-0270	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
11. George/Bae Sondag	27 Newlyn Cir.	betten.46@hotmail.com	351-8098	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
12. Layton Olson	37 Trevoe Pl	layton.olson@gmail.com	688-9767	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
13. Doug Wallace	45 Colwyn Ct	damkwall@yahoo.com	541-9393	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
14. Dave + Beth Swenning	414 Pentire Circle		319 631-8830 635-0110	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
15. Jim NOELLER	219 Arbor Dr	JimNoeller@msn.com	319 338-8956	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
16. Ann Nexin	891 Park Pl	ATN672@gmail.com	319-321-2882	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
17. Scott Swenson	821 Walker Cir	S.Swenson@uic.edu	319-358-8090	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
18. Tom Novak	609 Manor Dr	Thomas.a.novak@gmail.com		<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
19. John S. Chase	229 Taft Speedway St.			<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
20. Mary Beth Stevenson	115 N. 5th St. West Branch 52358	marybeth.stevenson@dnr.iowa.gov	319-325-8593	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact



Taft Speedway Flood Mitigation Study

Sign-in Sheet

Date: August 25, 2011

Name (Please Print)	Address (Please supply Zip Code)	Email	Phone	Contact Preference
1. Roger Beyhl	P.O. Box 283 Iowa City, IA 52244		319-351-8639	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
2. Ed Cole	1450 Laure Dr. IC. 52245	Dirtworks 04@Hotmail.com		<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
3. George Gray	5 Wadsworth Ln 52245		737-3237	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
4. CHARLES WILHITE	1639 Ridge Road C. 52245			<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
5. Virginia Stamler	137 Pentire Cr- 52245			<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
6. Phil Reischer	18 Dykewille Ct 52245	reischer@westofcia.net	337-3197	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
7. Linda & Bob Kopelman	822 W. Park Rd -52246	rkopelman@yahoo.com	887-5637	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
8. Jim Throgmorton	714 N. Linn St, Apt A 52245	jthrogmo@yahoo.com	338-0850	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
9. Bob Benson	22 Colwyn Ct	BOJA BENSON@MSN.COM	512-2197	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
10. BEU & BILL JOHANSEN	23 CAMBORNE CIR	BILZAMEAOL.COM	338-4106	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
11. Bob McKay	1438 Oaklawn Ave	rmckayic@gmail.com	351-9209	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
12. Nancy Andreasen	38 Camborne	terrygwin@mchsi.com	8575584	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
13. Terry Gwinn	36 Camborne			<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
14. DIANE BAKER	752 Foster	djbaker64@gmail.com	641-328-4810	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
15. Angie + Terry Tegen	143 Pentire Circle	t.tegen@mchsi.com	351-4028	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
16. SONIA ETTINGER	230 Rapowan	spettlinger@yahoo.com	338-6778	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
17. Karen Fox	37 Colwyn Ct	springlight@mchsi.com	330-2043	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
18. Charles Eastham	" " "	eastham@mchsi.com	541-3972	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
19. Charles Eastham				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
20. Louise Wolf Novak	609 Manor Dr.	louisewolfnovak@gmail.com	351-0879	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact



Taft Speedway Flood Mitigation Study

Sign-in Sheet

Date: August 25, 2011

Name (Please Print)	Address (Please supply Zip Code)	Email	Phone	Contact Preference
1. JOE BOHLKE	DES MOINES I PED	joseph.bohlke@iowa.gov	515-275-3011	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
2. Kay Prediger	870 Foster 52245		319-338-0912	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
3. Charlie & Margaret White	1639 Ridge Rd	marjorie-white@uiowa.edu		<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
4. MIKE & Ginger CRAWFORD	54 Pentire Circle	mecrawford@aol.com	319-512-5510	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
5. Mark & Liz Phelps	115 Taft Speedway	mark@hawkycampus.com	319-358-0554	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
6. Jerry GERARD	111 " "	PUNCH@HOTMAIL.COM	319 631-1784	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
7. Robert & Carole Stymeter	145 Pentire Circle	dutch37-4@hotmail.com	319-338-0807	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
8. CARL NELSON	76 Pentire Circle		319 351 9522	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
9. Susan Young	1720 Muscatine Ave	icoyez2@yahoo.com	338 3935	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
10. GARY DAVISSON	305 Taft Speedway St. Ia	gduval911@yahoo.com	319-631-1755	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
11. Joyce Chiles	33 Pentire Cir 52245		338-3145	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
12. Dale & Simon	416 Pentire Circle	simondaler@msu.com	337 2674	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
13. Janet Lessner	10 Spring Valley Dr NE	jlessner@NIU.edu	688-9386	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
14. Cliff ERWAT	705 MANOR DR		621-0060.	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
15. Martha Monick	35 Pentire Circle	matth-monick@uiowa.edu	354-4304	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
16. Barbara Tobin	43 Trevoise Place	btobs@aol.com	354.2375	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
17. Greg Geeder	890 Park Place II	mg9425@nichsi.com		<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
18. Mary Murphy	" "			<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
19. Joni Kinsey Fields	602 Granada Ct.	joni-kinsey@uiowa.edu	354-9529	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
20. Jim Douglass		JDUGLASS@PARAVIEWCHURCH.ORG	354-5580	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact



Taft Speedway Flood Mitigation Study

Sign-in Sheet

Date: August 25, 2011

Name (Please Print)	Address (Please supply Zip Code)	Email	Phone	Contact Preference
1. Cathy Wilcox	119 Taft Speedway St. IC 52245	wilcoxfam4@lycos.com	354-5879	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
2. Leone Vander Woude	54 Taft St 27 Camborne Circle	Leikhor@aol.com	319-351-1294	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
3. SUSIE PAPPAS	58 PENTIRE CIRCLE 52245	susiepappas@hotmail.com	319 338-0692	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
4. Joellen Shoemaker	27 Pentire Circle 52245	bigshoo@aol.com	319-351-1461	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
5. MARY KATHRYN WALLACE	45 COLWYN COURT 52245	mkatawall@yahoo.com	319-541-9501	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
6. Jack Newman	2423 Walden Rd 233 ^{11 Camborne} Circle	newtjman@aol.com	351-4167	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
7. Becky Hall	809 Eastmoor Dr. IC	beckyhall0@aol.com	354-9176	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
8. NANCY BREYER	520 Manor Dr.	naneb93@hotmail.com	354-0303 (cell 621-9008)	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
9. M. Albaghdadi	16 Colwyn Ct.	malbaghdadi@gmail.com	408-52129	<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
10. Genevieve Meis	62 White Oak Pl	Jmeis@IowacityAcr.com	319631-4877	<input checked="" type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
11. Susan Fahey	121 Taft Speedway St.			<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
12.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
13.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
14.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
15.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
16.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
17.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
18.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
19.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact
20.				<input type="checkbox"/> Email <input type="checkbox"/> Direct Mail <input type="checkbox"/> Do Not Contact



Taft Speedway

Flood Mitigation Study

August 25, 2011

HDR





Welcome

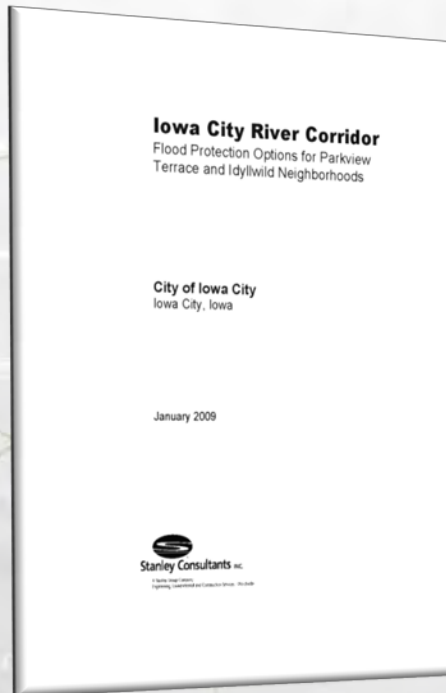
The purpose of this meeting is to:

- Discuss the Taft Speedway Flood Mitigation Study
- Present opportunities for community participation
- Gather your input and comments

How Did We Get Here?

Iowa City River Corridor Study (2009):

Flood Protection Options for Parkview Terrace and Idyllwild Neighborhoods



Flood protection options included:

- Elevating structures above the floodplain
- Constructing earthen levees
- Constructing structural concrete floodwalls
- Constructing demountable floodwalls
- Flood proofing homes with basements or crawlspaces

All of the above options were analyzed for the 100-year and 500-year flood event.



Parkview Terrace Recommendations

Six flood protection options included:

- Elevating the homes above the floodplain
- Constructing a floodwall or levee along the north side of Normandy Drive
- Constructing a demountable floodwall on the north side of Normandy Drive
- Elevating the intersection of Normandy Drive and Manor Drive above the 100-year
- Constructing a demountable floodwall and/or permanent floodwall within the right-of-way north of Normandy Drive
- Flood proofing the homes with basements

Because of high level of interest in and feasibility of Hazardous Mitigation Grant Program (HMGP) and Community Development Block Grant Program (CDBG) buyouts, no further study of mitigation alternatives to date.



Idyllwild Recommendations

Focus:

500-yr Event Protection for the Idyllwild Condominiums, Parkview Church and the homes along Taft Speedway



Idyllwild Recommendations

Six flood protection options included:

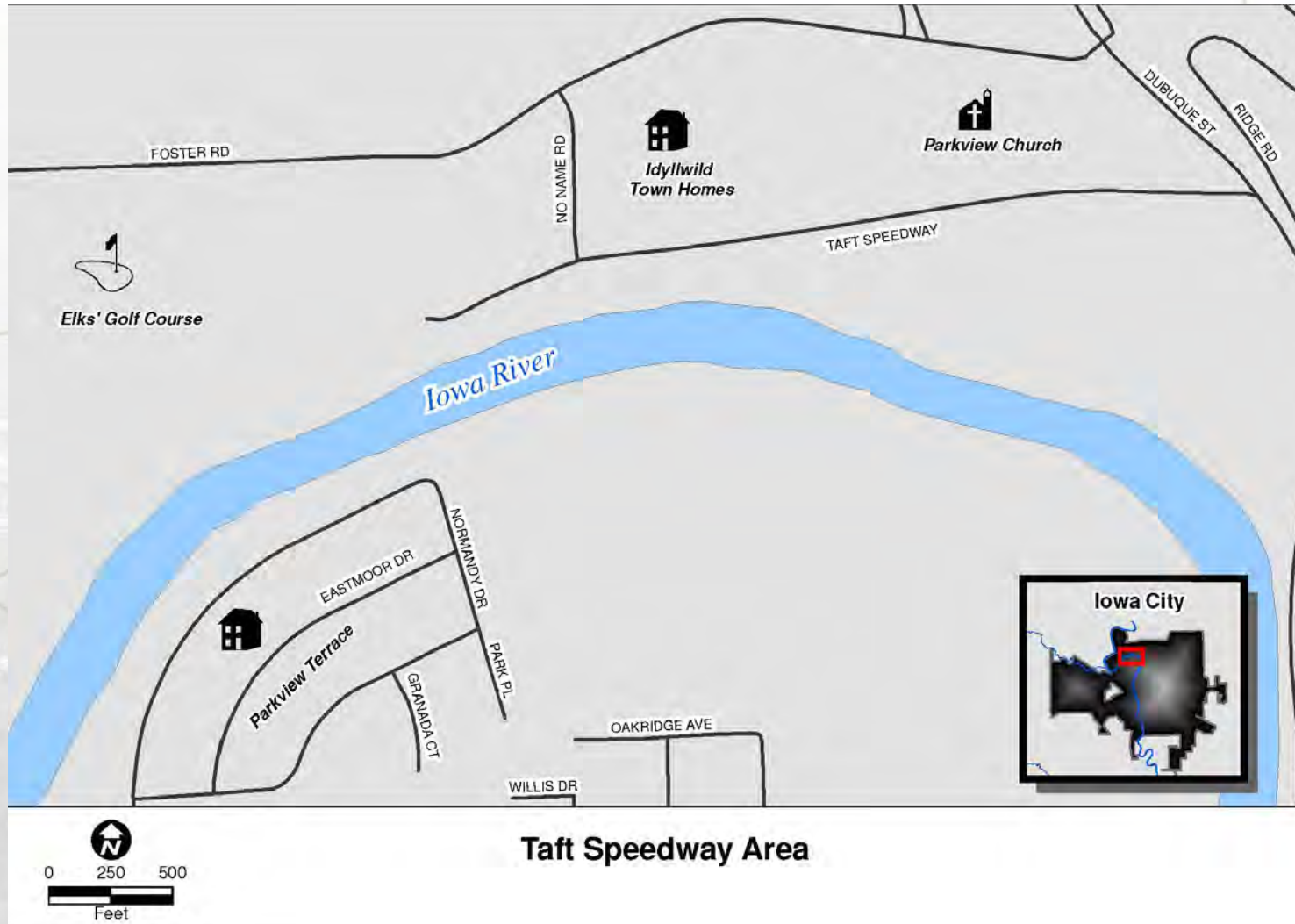
- Elevating the homes along the river, south of Taft Speedway
- Elevating Taft Speedway and No Name Road above 500-year floodplain
- Constructing a floodwall on the north side of Taft Speedway and east side of No Name Road
- Constructing a floodwall through the condominiums and church properties
- Constructing combination levee/floodwall
- Flood proofing of structures



Taft Speedway Flood Mitigation Study

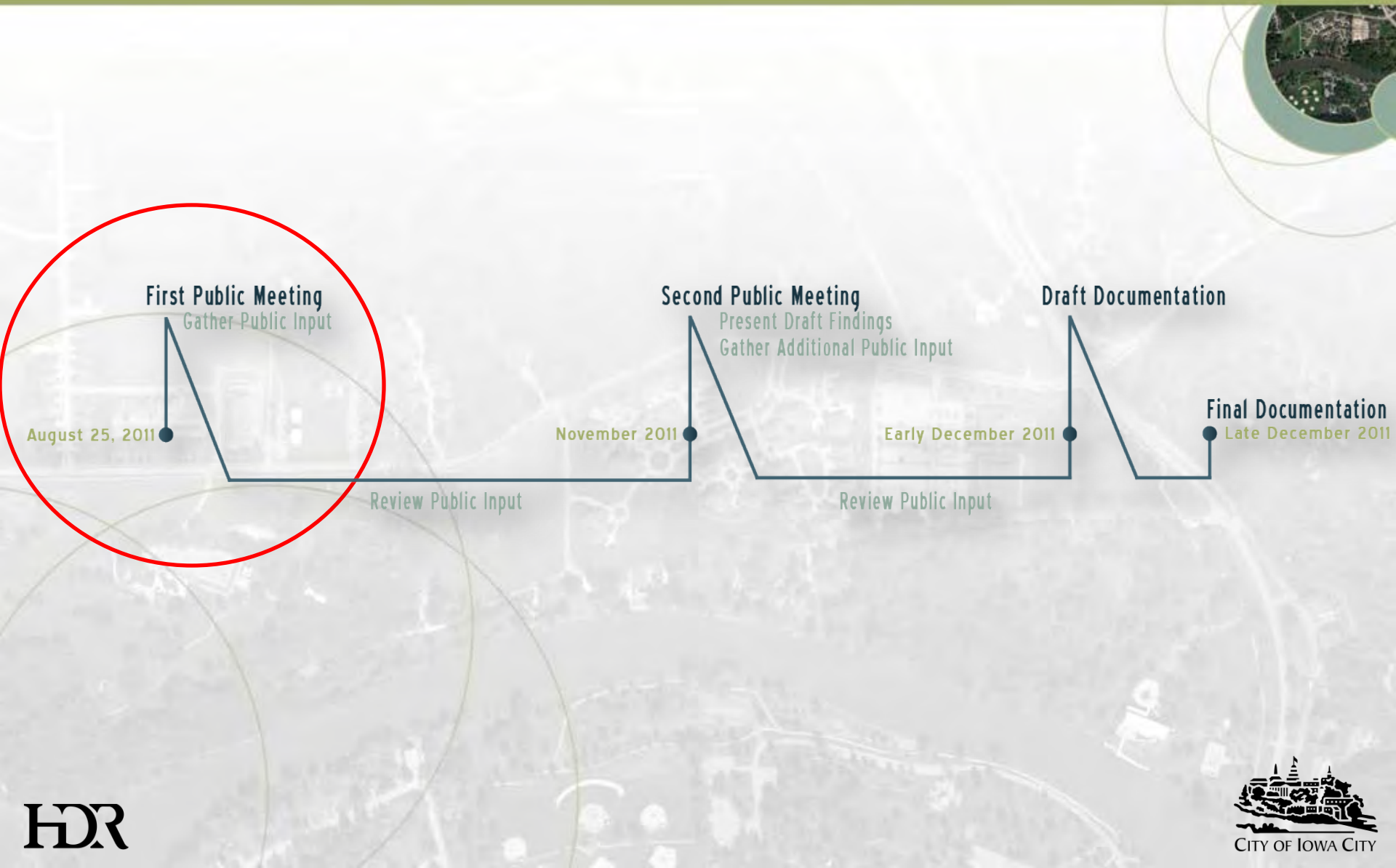
- *Focus:* Determine impacts – positive and negative – of flood mitigation alternatives
- *Method:* Collect public input, develop and analyze alternatives, summarize impacts
- *Result:* More detailed information for the City Council to make their decision

Taft Speedway Flood Mitigation Study





Taft Speedway Flood Mitigation Study



Task 1: Community Involvement

- Public Meetings
 - August 25, 2011
 - November 2011
- Website
(www.icgov.org, click on the Taft Speedway Study link)
- Mailings & Media
- Community Input





Task 2: Environmental & Archaeological Review

Review of resources according to the CDBGP environmental/archaeological guidelines such as:

- Cultural & Historic Resources
- Wetlands & Waters
- Endangered Species
- Wild & Scenic Rivers
- Air Quality & Noise
- Farmlands
- Housing & Urban Development (HUD) Standards
- Archaeological Resources



Task 3: Flood Mitigation Alternatives Development and Screening

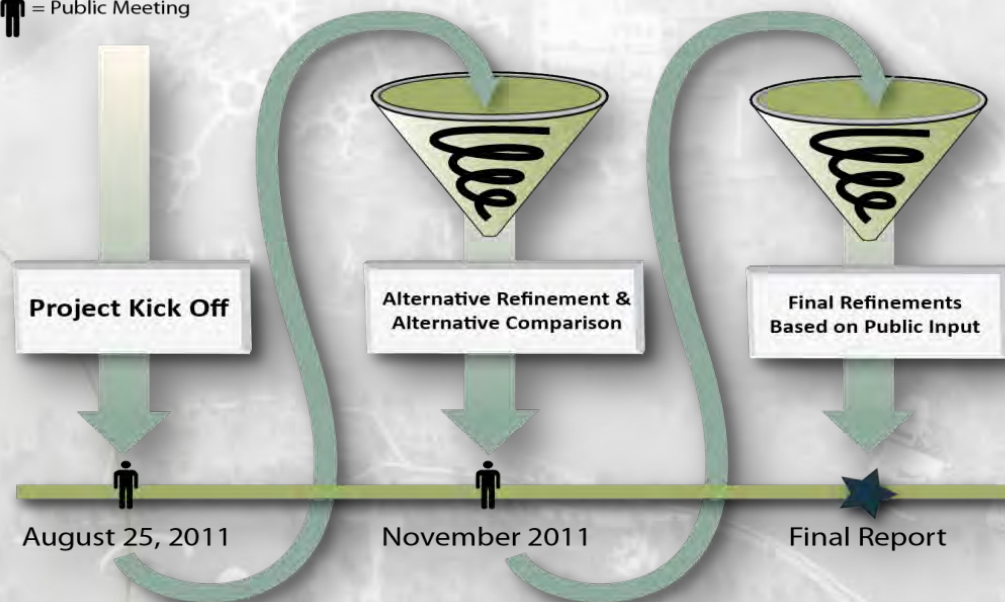
Develop:

Initial list of flood mitigation alternatives will be prepared based on data and public input

Initial Screening:

Flood mitigation alternatives will be screened based on a comparison of project feasibility, cost and ability to meet project goals

 = Public Meeting



Task 4: Flood Mitigation Alternative Analysis

Analyze Flood Mitigation Alternatives:

Flood mitigation alternatives will be refined and assessed to determine impacts and feasibility based on the criteria and public input

Screening Criteria Impacts May Include:

Existing Infrastructure

Cost

Flood Insurance Rates

Hydrology

Flood Protection

Adjacent Infrastructure Projects

Hydraulic Impacts

Property Values

Residents

Right-of-Way

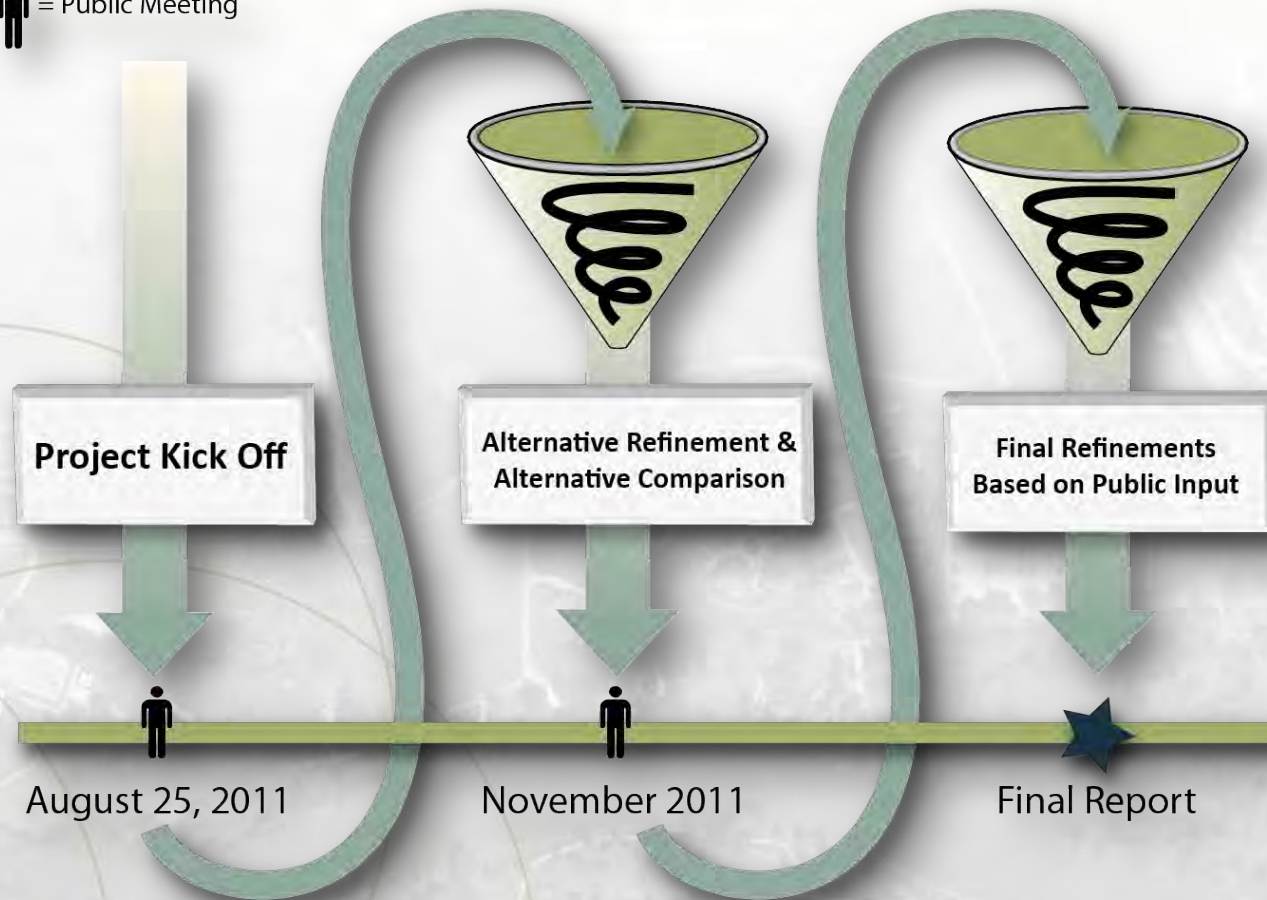
Social & Environmental

Technical Feasibility

Utilities

Task 5: Final Report

 = Public Meeting





Coordination with Others

Coordinate:

Study efforts will be coordinated with adjacent and associated project efforts and with local residents:

- Dubuque Street Gateway Project
- Taft Speedway Residents
- Idyllwild Neighborhood
- Parkview Church
- Parkview Terrace Neighborhood
- The Peninsula Neighborhood
- Oakmont Estates
- Mackinaw Village
- Louis Condos



How You Can Help?

We want your input!

- Fill out a comment form
- Visit us on the Taft Speedway website
 - *www.icgov.org, click on the Taft Speedway Study link*
- Attend the next public meeting
 - *Scheduled for November 2011*



Comments?



Comment Guidelines:

- Come up to the podium one person at a time
- State and spell your name for the minute recorder
- You have 5 minutes to speak, as to ensure that everyone gets the opportunity to be heard
- Please allow everyone to comment once before commenting a second time
- Be kind and courteous to all



**APPENDIX G: COMMENTS FROM PUBLIC MEETING NO. 2
TRANSCRIPT AND COMMENTS FROM PUBLIC MEETING NO. 3**

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Taft Speedway Flood Mitigation Study

Public Involvement Report as of 06/20/2012

Comments

Media	Week of 5/28/12	Week of 6/4/12	To Date
Email	3	1	11
Letter			1
Meeting Comment Form	4	8	32
Petition			3
Website	3		24
Total	10	9	71

Meeting Attendance

Meeting Date	# of Attendees
5/31/12	49
6/6/12	68
Total	117

Open Comments

Date Received: 5/31/2012 Comment ID: 54 Comment Source: Meeting Comment Form
Name: Wolf-Novak, Louise Address 609 Manor Dr, Iowa City,
Organization: Phone: (319) 351-0879
Responder: EMail: louisewolfnovak@gmail.com
Comment: Please release cost estimates of each plan. This is important --figure cost per property protected! Please remember aesthetics. Do no harm -- please do not leave an ugly wall. We understand this expensive project benefits Idylwild. However it comes at a great cost to citizens. It doesn't make sense to make a massive change which benefits some and hurts others. Please give us cost estimates before next week.

Notes:

Topic(s):

Date Received: 5/31/2012 Comment ID: 55 Comment Source: Meeting Comment Form
Name: Allan, Gay Address 708 Manor Dr, Iowa City, 52246
Organization: Phone: (319) 321-7787
Responder: EMail: gay-allen@uiowa.edu
Comment: 1) I've found the combination of charts, grids and maps a bit difficult to follow, at first sight. Is "do-nothing" a real alternative - or is it strictly for comparison purposes, as suggested by the November 2011 study? If "do-nothing" is in fact an alternative, it seems the best and fairest option. For a City to be in the business of protecting one area at the sacrifice of another will create resentments and unhappiness at the very least. "Do-nothing" and recommend individual flood insurance is my preliminary preference. 2) Some idea of comparative costs would have been useful at this meeting.

Notes:

Topic(s):

Date Received: 5/31/2012 Comment ID: 56 Comment Source: Meeting Comment Form
Name: Swenning, Dave & Beth Address 44 Pentrice Cir, Iowa City, 52245
Organization: Phone: (319) 631-8830
Responder: EMail: betsyswenn@gmail.com
Comment: Andy McCoy explained each design in very good detail so everything is pretty much clear in our minds. I think the idea of raising Taft Speedway (alternative 9B) was a really good one.

Notes:

Topic(s):

Date Received: 5/31/2012

Comment ID: 57

Comment Source: Meeting Comment Form

Name: Novak, Tom

Address 609 Manor Dr, Iowa City, 52246

Organization:

Phone: (319) 351-0879

Responder:

EMail: thomas.a.novak@gmail.com

Comment: Cost estimates need to be prioritized and disseminated PRIOR to next week's meeting. Aesthetics are an important consideration - please provide elevation views from both sides of the levee (city park and Idyllwild/Parkview). Other impacts of the levee construction need to be addressed - loss of flood insurance eligibility for Idyllwild residents if the levee is built. - insurance will not cover water damage due to heavy rainfall causing surface water backups inside the levee if the pump fails - failure of the levee can cause catastrophic damage not covered by insurance. Maximum flood insurance coverage is \$400 per year for high-risk property - it would take 200 years to equal the cost of a basic levee. The lost property value caused by a concrete wall may offset the presumed benefit of a levee.

Notes:

Topic(s):

Date Received: 6/5/2012

Comment ID: 59

Comment Source: Email

Name: Novak, Tom

Address 609 Manor Dr, Iowa City, 52246

Organization:

Phone: (319) 351-0879

Responder:

EMail: thomas.a.novak@gmail.com

Comment: To whom it may concern: I am writing regarding the Taft Speedway Flood Mitigation Study. We are concerned that the follow-up meeting on June 6th is taking place prior to citizens having adequate time and information to promote a thoughtful discussion. A significant amount of information was missing from the initial meeting on May 30th that should have been available, and has still not been posted for public access, even though we were told that it would be. It appears that the meeting on May 30th was held to satisfy a required number of public hearings, but does not appear that the actual requirements were met that would be reasonable to expect for a project of this magnitude. We are especially concerned that there are no cost estimates associated with each of the plans. We also would like the do-nothing option to list the cost of 92 homes in Idyllwild getting flood insurance vs. the costs of the engineering projects. Since the area behind the levee will no longer be in the official floodplain does this prevent Idyllwild residents from protecting their property with flood insurance if a levee or floodwall is constructed? If the levee fails who is responsible for damages to structures that were supposed to be protected by the levee? Since insurance does not cover damage due to surface water, who is liable for damages if the pumps fail during a heavy rain? The flat map visuals provided do not provide adequate information about the effect of the plans on the area. With computers being what they are today and based on models seen for other projects, it is imperative that visually informative models be provided. What are the different plans going to look like? What will the view from City Park be? What will the view from Idyllwild be? We are bothered by the footnote to the Hydraulic Impacts table. Please summarize what the projects are, what the prospects are for them to be constructed, and what the potential impacts are for this study. Please explain how you chose the Intersection of Rocky Shore Drive and why should we accept this as adequate information. Why was there no one from HR Green at the meeting to answer questions about the hydrologic studies? During a 2008 flood event the impact of the proposed levee on water levels 500 feet upstream of no-name road cannot be "0"! - there needs to be a clear report on how this calculation was made, and by whom. Could you please give further information about the inundation mapping upon which conclusions are based and illustrate the calculations upon which the maps are made. Also, what cumulative impacts and secondary impacts will be considered? For example, won't the protected area be a potential pond, depending upon the perfection of the (one) installed pump? What are the annual maintenance costs for each of the proposed levee/floodwall combinations? Which of the preliminary environmental impacts are being considered, given the levee on either side of the river? Since the US Army Corps of Engineers will have to issue permits that alter the floodplain and potentially the river bank (and possibly conduct their own engineering and environmental studies), why is there no one from the Corps involved at this point in time? We do not appreciate the way these meetings are being rushed through without adequate information or time between meetings to facilitate homework. This is a very busy time of year, considering that the academic year has ended for both the University and the public schools. While we understand that the meetings were set up to meet the schedule of both City personnel and the contractor, these meeting times are less convenient for those of us who are not familiar with the data and studies, and need time to process the information (especially since all your data is not yet available). I am concerned that your proposed meetings with city personnel might be in August. As any Iowa City citizen knows, August is not a time to make important city-wide decisions in Iowa City, due to numerous vacations scheduled during that time.

Notes:

Topic(s):

Date Received: 6/5/2012

Comment ID: 60

Comment Source: Email

Name: Cline, Sally

Address 33 Trevoze Pl, Iowa City, 52245

Organization: Idyllwild Condo Owners Association

Phone: (319) 331-0270

Responder:

EMail: clinesally@cs.com

Comment: Perhaps you could supply an idea of what a "flood wall" could look, it may be helpful for a visual effect

Notes:

Topic(s):

Date Received: 6/6/2012 Comment ID: 58 Comment Source: Email
Name: Novak, Tom Address 609 Manor Dr, Iowa City, 52246
Organization: Phone: (319) 351-0879
Responder: EMail: thomas.a.novak@gmail.com
Comment: To whom it may concern: I received your information this morning as I check for any emails regarding my work. Receiving the information at the time you sent it presumes that people don't have evening plans or work during the day. I was at a business meeting for my practice last evening. My work does not allot me time to review emails during the work day. It will be a challenge for me to be at a meeting by 6:00 pm since my work day often extends to meet the needs of patients. I imagine that my situation is not unique and there was not enough time planned between meetings for you to give citizens time to thoughtfully process the information. The meetings require an opportunity for public input, but there has not been a reasonable amount of time given for the public to have access to the technical information and respond in a thoughtful manner. I request that an additional public meeting take place prior to the city council receiving recommendations, in order to allow the level of public involvement and input that is required. It would be appropriate for an email of importance to be signed by the persons responsible for this information.
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 63 Comment Source: Website
Name: Walker, Joey Address 882 Park Pl, Iowa City, 52246
Organization: Phone: (319) 338-8487
Responder: EMail: joeywalker@mchsi.com
Comment: I think all the alternatives are a terrible waste of our money. A possible alternative is to add a road to the Peninsula Neighborhood through the landowner to the north which would cost a fraction of all the other alternatives. The levee and the raising of Foster Road are not worth the cost of protecting a few homes, and may actually push more water on to Parkview Terrace--another existing neighborhood. The levee may not be able to protect Idyllwild anyway--it is low and water may accumulate behind a proposed levee. Building an access to the Peninsula neighborhood is all that is fair and necessary.
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 65 Comment Source: Meeting Comment Form
Name: Stoppelmoor, Ernie Address 2405 Towncrest Dr, Iowa City, 52240
Organization: Phone: (319) 351-5556
Responder: EMail: erniestop@iowatelecom.net
Comment: Regarding the storm water pumping station: Was consideration given to the possibility of storm sewers to divert the runoff from the north instead of relying on mechanical pumps which require maintenance?
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 66 Comment Source: Meeting Comment Form
Name: Brinton, Edward Address 45 Howard Cir, Iowa City, 52245
Organization: Phone: (319) 338-4600
Responder: EMail: ehbrinton@mediacombb.net
Comment: 1) I liked the presentation and handout materials. 2) On pg 2 of the preliminary screening, it would be helpful if the column headings were added. 3) It would be helpful to see an analysis of the similarities and differences in alternatives 7, 8, and 9. Esp 7 and 8. 4) It would be a really good idea to give a name to "No Name Street". 5) The slides showing the artist's view of the cross sections of levee and flood wall were very good and helpful. 6) I believe the folks south of Taft Speedway are "out-of-luck" and that is okay with me. But Alt 7 does provide access to their properties even though they may be flooded. 7) I read \$5.0 mil difference is the benefit to this neighborhood Alt 7 - Alt 2 \$2B. Would there be an increase to this property value and property tax income from this neighborhood?
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 67 Comment Source: Meeting Comment Form
Name: Eastham, Charles Address 37 Colwyn Ct, Iowa City, 52245
Organization: Phone: (319) 541-3972
Responder: EMail: eastham@mchsi.com
Comment: Only 500 yr and 3 feet structures make sense. Please build one of these alternatives.
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 68 Comment Source: Meeting Comment Form
Name: ~Anonymous, ~Anonymous Address , ,
Organization: Phone:
Responder: EMail:
Comment: Would like to see a cost benefit analysis rather than a list - what are the pros & cons. Idyllwild condo values will go down if everyone has to look at a levee or floodwall or some combination thereof. Add in maintenance costs. 1) What is the costs, including interest to each property owner in Iowa City of each alternative. 2) What is the cost, including maintenance divided by the # of condo units. In other words, how much per unit at Idyllwild?
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 69 Comment Source: Meeting Comment Form
Name: Geerdes, Gregg Address 890 Park Pl, Iowa City, 52240
Organization: Phone: (319) 354-2375
Responder: EMail: rmg9425@mchsi.com
Comment: 1) Idyllwild's risk is best managed by having them purchase flood insurance at their expense. Why should the public be required to pay. 2) Everyone who lives in the flood plain could see the river when they bought - there is no one to blame but the people who chose to live there. 3) Protect the park! The aesthetics of a concrete wall would be horrendous. Why should the whole community suffer? 4) With the already high property taxes in Iowa City and the present and proposed bond issues (ie the jail) this is one project which can and should be eliminated.
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 70 Comment Source: Meeting Comment Form
Name: McKay, Bob Address 1438 Oaklawn Ave, Iowa City, 52245
Organization: Phone: (319) 351-9209
Responder: EMail: rjmckayic@gmail.com
Comment: In the draft report to Iowa City please include in alternative "Do Nothing" and Alt 2 the cost to flood plain residents of acquiring financial mitigation from flood damage in the form of flood insurance from the National Flood Insurance Program. This financial mitigation cost, provided by floodplain residents, should be available for cost comparisons with the other alternatives in the report.
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 71 Comment Source: Meeting Comment Form
Name: Boehlje, Susan Address 1729 Louis Pl, Iowa City, 52245
Organization: Phone: (319) 331-1452
Responder: EMail: sichance@iowadsl.net
Comment: Thank you for the detailed analysis by the consultant. I think he/they did a good job. Two comments - 1) The consultant was honest enough to "confess" to the underground seepage issue due to gravity flow and soil conditions. Solution is to drill several pressure wells at Idyllwild - public improvements to public property? Plus the additional cost of the slurry to seal the underground flow. 2) Have you accessed the work of the UI Hydrolyic Dept headed by Prof Wichek concerning the special circumstances causing the 2008 floods. They have published a book "A Watershed Year - the Causes of the 2008 Iowa Floods". Hope you can read this.
Notes:
Topic(s):

Date Received: 6/6/2012 Comment ID: 72 Comment Source: Meeting Comment Form
Name: Dillman, Drew Address 845 Normandy Dr, Iowa City, 52246
Organization: Phone: (319) 321-0590
Responder: EMail: drewdillman@gmail.com
Comment: Raising Foster Road makes sense. Narrowing the flood plain by elevating a barrier along No Name Road seems a bad idea. Is there a plan to drop the fences around the ball diamonds downstream from Parkview Terrace immediately before a flood.
Notes:
Topic(s):

Date Received: 6/7/2012 Comment ID: 64 Comment Source: Email
Name: Crawford, Mike & Ginger Address 54 Pentrice Cir, Iowa City, 52245
Organization: Phone: (319) 512-5510
Responder: EMail: mecrawford@aol.com
Comment: Following last nights meeting I have a few comments. First, I do think the hydraulic impacts need to be highlighted and made more clear to all concerned. This needs to be understood by City Council. Further, I am wondering if you are taking the proposed construction along I-80/Dubuque into consideration relative to runoff. I also have to comment on the alternative to just raist Foster Road. If that is what the Council decides, it will be an insult to the 92 families that live in Idyllwild. Finally, I do want to comment that Alternative 7 may be the most logical, certainly from a cost standpoint. Even though you will hear many arguments from those of us in Idyllwild to have 500 year protection, this alternative would at least send the message that the City is attempting to help us. Also, if we are ever again threatened with a 500 year flood, it will be much easier to sandbag on top of that levee.
Notes:
Topic(s):

Date Received: 6/15/2012

Comment ID: 73

Comment Source: Website

Name: Rosenquist, Marilyn

Address 323 Mullin Ave, Iowa City, 52246

Organization: Manville Heights Neighborhood Association

Phone: (319) 354-3656

Responder:

EMail: mdrosenquist@hotmail.com

Comment: I attended the June 6th Taft Speedway Flood Mitigation public meeting. I would like to make the following comments after hearing the presentation and listening to the questions and answers about the project. 1. The Idyllwild condominiums were built after the then 1992 city council's override of the zoning commission's denial in the early 90's. The fault of the extensive flooding of the condos is squarely on the shoulders of the developer for not landfilling above the know 100 year flood zone before building. Please do not throw good money after bad in an attempt to remedy this mistake by destroying the Taft Speedway neighborhood, Parkview neighborhoods, City Park and the business and residents downstream. This is a lawsuit waiting to happen. 2. The levee design has a road on top for access to the Peninsula development. We no longer need that road because of the road that will be built at the Dubuque Street exit development. This road will give access to the Peninsula from the north side of Foster Road. The levee road would be closed to traffic in times of high water, so of no value during times of flooding. The Dubuque St Exit road will be north of foster road and north of the flood zone. 3. The total cost of this project will require input from city wide property taxes. The projection is that general obligation bonds will have to be issued to help pay for the levee. Eventually that money would have to be repaid by city wide property taxes. It is not fair that the benefit of this taxing will be for the 92 condo units only, not city wide. 4. The cost of the levee would be too much for Iowa City property tax payers during these times of financial hardship. We are losing revenue from the Iowa Supreme Court ruling that housing cooperatives can be classified as residential. And at the same time we are going to be asked to fund a new Justice Center costing \$48 million dollar, pay at least \$6 million for the landfill fire, eventually built a new high school and possibly fund the future medical offices in Towncrest for \$950,000. 5. The \$30,000 maintenance fee for the levee will be carried by city wide property taxes but benefit only the Idyllwild residents. 6. The storm water system discussed at the meeting to control future flash flooding will most likely get clogged with sand, which is the main component found in the soil sampling. If the city raises Foster Road the condo will then be situated in a bowl, between Foster and the levee. 7. I would like to see a cost analysis of how spending \$8-9 million plus on these 92 condo units would increase their property value enough to make it worth the money. As I see it, we are being asked to spend approximately \$145, 000 per condo unit so they do not need to pay flood insurance. 8. The most importance project the City's Flood Mitigation should be raising Park Street Bridge. The backup of flood water at the bridge was the cause of much of the damage in the flood of 2008. 9. I am extremely uncomfortable with the fact that this project will be using federal and local taxes to favor one street over many others, particularly the people right across the street. It is unfair that the benefits will be felt only by the Idyllwild condominiums residents and that the negative impact will be felt by the neighbors across the street, across the river and down the river. 10. The only fair solution is for the Idyllwild residents to get flood insurance like other people who live along the river.

Notes:

Topic(s):

August 21, 2012

Dear Iowa City Councilors and Staff:

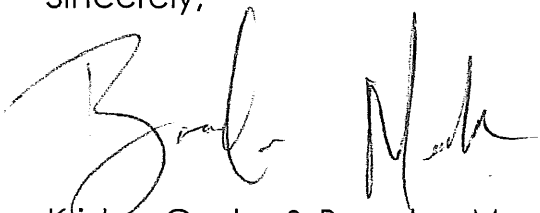
Thank you for directing Staff to apply for Grant money to be used for building permanent flood protection for Idyllwild, Parkview Church and Foster Road. I am writing this letter to ask you to please use it! It would seem unconscionable to return it after experiencing the most devastating flood in the history of our City.

The HUD Community Development Block Grant of \$8 million will cover all or most of the cost at this time, lessening the burden to the taxpayers of our community. The Taft Floodwall will eliminate the need to raise Foster Road, as the levee will protect this roadway as well. And perhaps most importantly, the HDR study has concluded that the Taft Floodwall will not create a detrimentally higher water level for our neighbors on Taft Speedway or Parkview Terrace.

It has taken the Idyllwild community four years to overcome the destruction left in the flood's wake - and we are still not finished rebuilding. The flood caused the Idyllwild homeowners to spend over \$8 million to rebuild - much of this was funded by taxpayer dollars from the state and federal government. And even though the Idyllwild community now has flood insurance, that too is a federal program whose shortfall is funded by our tax dollars. It would seem to be a better use of everyone's dollars to build a levee rather than rebuild again after every flood.

For these reasons, I am asking for you to please support the Taft Floodwall.

Sincerely,

A handwritten signature in black ink, appearing to read "Kristen Menke", written over the printed name.

Kristen Cayler & Brandon Menke

13 Camborne Circle

Iowa City, IA 52245

33 Trevoise Place
Iowa City IA 52245
August 22, 2011

Member of City Council and Staff
City of Iowa City
410 E Washington Street
Iowa City AI 52240

Reference: Taft Speedway/No Name Road Flood Mitigation

Dear City Council and Staff

In Year 2010, Idyllwild Condominium Association commissioned MMS Consultants to prepare a Flood Emergency Plan for our 92 properties. The plan's conclusions:

1. It's impossible to protect Idyllwild against river flooding at greater than a so-called 100 year flood using traditional temporary mitigation methods like sandbagging. There is simply not enough time to fill and place the necessary sandbags; it's estimated approximately 500,000 would be needed.
2. In addition to river flooding, Idyllwild is also exposed to a significant flood event from rainfall and runoff on 82 acres of ground to our north and west, the Peninsula neighborhood. Runoff from this watershed flows through the Idyllwild property and into our retention ponds.

Unlike others in surrounding neighborhoods, we have some unique challenges which hinder our ability to mitigate future flooding:

1. Our building design/construction doesn't allow raising them out of harm's way like can be done with a single family home.
2. It's impossible to protect our properties from river flooding through temporary sandbagging.
3. Individual owners cannot be "bought out" after a flood because the development is incorporated as one large entity under the declaration which defines our Association.
4. We cannot redirect the increased volume of water flowing through our property from the Peninsula neighborhood and Foster Road storm drains without City assistance and approval.

The conclusion is clear; some sort of flood mitigation for both river and rainfall flooding is required to protect the Idyllwild neighborhood. City Council supported and approved its construction twenty-some years ago and then approved and supported its reconstruction in Year 2008. The City has some sort of responsibility and obligation to support us once again. I ask you to support the Taft Street/No Name Road flood mitigation project.

Sincerely,



Kurt Kimmerling

August 24, 2012

Dear Iowa City Councilors and Staff:

It has been 4 years since the Flood of 2008 left the community of Idyllwild, Taft Speedway, Parkview Terrace and the Parkview Church in ruins. After the flood, Idyllwild homeowners spent over \$8 million to gut and rebuild every condo in the development. More funds were spent for temporary housing, to replace Idyllwild landscaping and repair roads and sidewalks. By late 2009, 35 homeowners out of 92 had sold their condo, filed for bankruptcy or had their mortgages foreclosed by the bank. It was a devastating event for our community, and not one we ever wish to repeat.

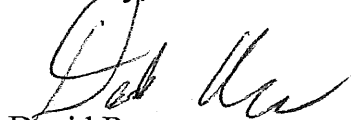
Therefore I am writing today to ask the Council to take action now to protect this community. The HUD Community Development Block Grant of \$8 million will cover all or most of the cost at this time, lessening the burden to the taxpayers of our community. The Taft Floodwall will eliminate the need to raise Foster Road, as the levee will protect this roadway as well. And perhaps most importantly, the HDR study has concluded that the Taft Floodwall will not create a detrimentally higher water level for our neighbors on Taft Speedway or Parkview Terrace.

Idyllwild does not have many options for flood protection. Our development was not eligible for a FEMA buyout after the flood because as a condominium development, we are governed by a Declaration of Condominium which defines all 92 homes as an association and one large property, not individual units. Also, collectively, we did not meet the minimum damage requirements to be eligible for a buyout. We cannot raise our buildings higher due to the type of construction. We cannot protect ourselves with sandbags - with all the community resources that were available in 2008, we were unable to build a sandbag wall high enough and wide enough to protect our 92 homes. We put into place 350,000 sandbags, and we were out of time and still 150,000 sandbags short.

We believe that a basic function of government is to protect the safety, welfare and well-being of its citizens. Idyllwild residents and owners pay their share of taxes and deserve this protection.

Please support the floodwall.

Sincerely,



David Russo

11 Pentire Circle

Iowa City, IA 52245

August 26, 2012

Dear Councilors and Staff:

The reason for this letter is to encourage you to support building the Taft Floodwall to protect the 92 homes within the Idyllwild condominium complex that were ruined by the flood of 2008.

It has taken the Idyllwild community four years to overcome the destruction left in the flood's wake - and we are still not finished rebuilding. The flood caused the Idyllwild homeowners to spend over \$8 million to rebuild (\$87,000 average per homeowner) – much of this was funded by taxpayer dollars from the state and federal government. And even though the Idyllwild community now has flood insurance, that too is a federal program whose shortfall is funded by our tax dollars. It would seem to be a better use of everyone's dollars to build a levee rather than rebuild again after every flood. We know Parkview Church DID have flood insurance; however, it paid only \$500,000 out of the \$900,000 worth of damage that was incurred. Insurance does not mean there is no expense to the victim. Additionally, flood insurance does not cover the stress and mental devastation from such a disaster.

The Taft Floodwall will protect the church, Foster Road access, 92 families and real estate at Idyllwild that was valued at close to \$30 million at the time of the 2008 flood. It will help stabilize property values and support increased property taxes in this area. And lastly, the HDR Study shows that there is no hydraulic encumbrance upon our neighbors as a result of a proposed floodwall, even to the height of a 500 year flood level plus 3 feet.

For these reasons, I am asking for you to please support the Taft Floodwall.

Sincerely,



Ivan N. Hall III

14 Idyllwild Court
Iowa City, IA 52245

August 26, 2012

Dear City Council and Staff:

I am an Idyllwild Condo owner in Iowa City. I am writing today to ask for your consideration of building a floodwall to protect the Idyllwild community and the neighboring Parkview Church.

Though Idyllwild was built a foot or more above the floodplain, that did not protect it from the devastating Flood of 2008. With Coralville, and other communities to the north having adopted their own flood protection plans, this may well create more problems for those of us in the Idyllwild community. The Taft floodwall will help to provide us some needed protection, as taxpaying citizens, in the unconscionable event of a reoccurrence. The Idyllwild community cannot build a sandbag wall high, wide, or expansive enough to protect ourselves. And the homeowners association is not in a position to pay and provide labor for a temporary flood protection wall.

One argument given against the floodwall is that it will need taxpayer dollars to finance it. It seems that a floodwall – even at an expense of \$15 million (of which \$8 million would be paid by a HUD grant) would be a good investment to protect the more than \$25 million of real estate (Idyllwild and the Parkview Church) that is left. And if the grant money of \$8 million is not used in our community, it will not be given back to taxpayers, but redistributed to some other community for disaster protection. It makes sense for our community to use this grant!

The proposed levee will not only protect the 92 homes in Idyllwild, but also protect against Foster Road again being flooded, which is presently the only access to the Peninsula community. The Parkview Church property will also gain protection from a floodwall.

For these reasons, we support the Taft Floodwall and we urge you to support it as well.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tracy A. Hansen".

Kay & Tracy Hansen
15 Pentire Circle
Iowa City, IA 52245

August 28, 2012

Dear Iowa City Councilors and Staff:

The Flood of 2008 was a devastating event for the Idyllwild community, and not one we ever wish to repeat. There is an opportunity now to mitigate this type of event in the future and we are asking that you please exercise it. Please vote yes for the Taft flood protection.

The HUD Community Development Block Grant of \$8 million will cover all or most of the cost at this time, lessening the burden to the taxpayers of our community. The Taft Floodwall will eliminate the need to raise Foster Road, as the levee will protect this roadway as well. And perhaps most importantly, the HDR study has concluded that the Taft Floodwall will not create a detrimentally higher water level for our neighbors on Taft Speedway or Parkview Terrace.

Idyllwild does not have many options for flood protection. Our development was not eligible for a FEMA buyout after the flood because as a condominium development, we are governed by a Declaration of Condominium that defines all 92 homes as an association and one large property, not individual units. Also, collectively, we did not meet the minimum damage requirements to be eligible for a buyout. We cannot raise our buildings higher due to the type of construction. We cannot protect ourselves with sandbags - with all the community resources that were available in 2008, we were unable to build a sandbag wall high enough and wide enough to protect our 92 homes. We put into place 350,000 sandbags, and we were out of time and still 150,000 sandbags short.

We need flood protection, and it is at your fingertips. Please support the Taft Floodwall.

Sincerely,



Earlene & Robert Slaymaker

145 Pentire Circle

Iowa City, IA 52245

August 28, 2012

Dear Iowa City Council and Staff:

I am writing you today to ask that you vote in favor of building the Taft floodwall to help protect us - and the other 91 homes in the Idyllwild condominium complex – from the type of financial, physical, and mental devastation caused by the flood of 2008.

No one could have predicted the 2008 flood would be so extreme, and flood mitigation structures up and down the river, as well as more frequent intense storms have changed the severity and number of floods in the Midwest. The City Council has the opportunity and the funding - at this moment- to choose to protect these homes without raising the flood levels for our neighbors. It would be remiss to do nothing and let the flood waters flow unabated next time around.

Though the floodwall is important for Idyllwild, it is also an important element for the protection of the Parkview Church, which was also devastated by the Flood of 2008. And while one argument against the floodwall is that we should all just get flood insurance, Parkview Church DID have flood insurance, however, it paid only \$500,000 out of the \$900,000 worth of damage that was incurred. Insurance does not mean there is no expense to the victim. Additionally, flood insurance does not cover the stress and mental devastation from such a disaster.

Please support a Floodwall to protect our community.

Sincerely,



Mishelle Paullus

37 Trevoise Place

Iowa City, IA 52245

August 29, 2012

Dear Council and Staff:

The purpose of my letter is to ask for your support in building the Taft Floodwall to protect the 92 homes and 23 buildings in the Idyllwild condominium complex devastated by the flood of 2008. As you are aware, Idyllwild was built with approval by the City, and was originally built a foot or more above the floodplain, although the landscape has changed over time to put some areas in the floodplain. Flood protection plans put into place in Coralville and other communities to our north may have an adverse effect on the flooding of Idyllwild.

It has taken the Idyllwild community four years to overcome the destruction left in the flood's wake - and we are still not finished. It was a devastating event that created financial ruin for some, stress and anxiety for all, and it cost us \$8 million to rebuild. No one could possibly wish for us to go through this again.

It is our view that a basic function of government is to protect the safety, welfare and well-being of its citizens. Idyllwild residents and owners pay their share of taxes and deserve this protection.

Sincerely,

A handwritten signature in cursive script that reads "Jean Davidson". The signature is fluid and elegant, with a large initial "J" and a long, sweeping underline.

Jean Davidson
42 Camborne Circle
Iowa City, IA 52245

August 29, 2012

Dear City Council and Staff:


I am writing you today to ask that you vote in favor of building the Taft floodwall to help protect us - and the other 91 homes in the Idyllwild condominium complex - from the type of financial, physical, and mental devastation caused by the flood of 2008

Pre-flood, real estate was valued at close to \$30 million in Idyllwild, and the Taft Floodwall should help stabilize property values and support increased property taxes. We know there is concern over floodwall appearance. However, one need only to walk the streets of Iowa City to see the walls that have been built for many reasons, with many of them being interesting and visually appealing. A flood wall with a brick or stone facade could be an interesting backdrop to new landscaping and would certainly look better than a flooded church and 92 flooded condos!

The City Council has the opportunity and funding - at this moment- to choose to protect these homes without raising the flood levels for our neighbors. It would be remiss to do nothing and let the flood waters flow unabated next time around.

Please support the creation of the Taft Floodwall.

Sincerely,

A handwritten signature in black ink, appearing to be 'Ed Warth', with a stylized, flowing script.

Ed Warth

48 Camborne Circle

Iowa City, IA 52245

August 31, 2012

Dear Iowa City Councilors and Staff:

I am writing this letter to ask for your support of building the Taft Floodwall to protect the 92 homes in the Idyllwild condominium complex and the Parkview Church, all of which were devastated by the flood of 2008.

We have heard many reasons against the floodwall or levee in the past year.

One argument against the floodwall is the use of taxpayer dollars to finance it. Taxpayers have already financed \$21,000,000 to buy out properties on the river that includes many homes along Taft and Parkview Terrace. It seems that a floodwall – even at an expense of \$15,000,000 (of which \$8 million would be paid by a HUD grant) would be a good investment to protect the more than \$25,000,000 of real estate (Idyllwild and the Parkview Church) that is left. And if the grant money of \$8,000,000 is not used in our community, it will not be given back to taxpayers, but redistributed to some other community for disaster protection. It makes sense for our community to use the grant we were given.

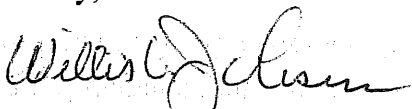
Another argument against the floodwall is that we should all just get flood insurance. Parkview Church DID have flood insurance in 2008, however, it paid only \$500,000 out of the \$900,000 worth of damage that was incurred. Insurance does not mean there is no expense to the victim. Additionally, flood insurance does not cover the stress and mental devastation from such a disaster.

A third argument is that a floodwall will look awful. However, one needs only to walk the streets of Iowa City to see the various walls that have been built for different reasons, with many of them being interesting and visually appealing. A floodwall with a brick or stone facade could be an interesting backdrop to new landscaping.

The Taft Floodwall will protect 92 families and real estate that was valued at close to \$30 million at the time of the 2008 flood. It will protect Foster Road and the Parkview Church. It will help stabilize property values and support increased property taxes. And lastly, the HDR Study shows that there is no hydraulic encumbrance upon our neighbors as a result of a proposed floodwall, even to the height of a 500 year flood level plus 3 feet.

For these reasons, I am asking for you to please support the Taft Floodwall.

Sincerely,



Willis & Beverly Johansen

23 Camborne Circle

Iowa City, IA 52245

August 27, 2012

Dear Council and Staff:

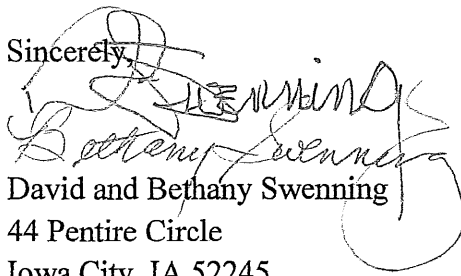
I am writing you today to ask that you vote in favor of building the Taft floodwall to help protect us - and the other 91 homes in the Idyllwild condominium complex – from the type of financial, physical, and mental devastation caused by the flood of 2008.

Though it was severely flooded, the Idyllwild condominium complex was built with Council approval a foot or more above the floodplain. No one could have predicted the 2008 flood would be so extreme, and flood mitigation structures up and down the river, as well as more frequent intense storms have changed the severity of floods in the Midwest. The City Council has the opportunity and the funding - at this moment- to choose to protect these homes without raising the flood levels for our neighbors. It would be remiss to do nothing and let the flood waters flow unabated next time around.

One argument against the floodwall is that it will need taxpayer dollars to finance it. Taxpayers have already financed \$21,000,000 to buy out properties on the river which includes many homes along Taft and Parkview Terrace. It seems that a floodwall – even at an expense of \$15,000,000 (of which \$8 million would be paid by a HUD grant) would be a good investment to protect the more than \$25,000,000 of real estate (Idyllwild and the Parkview Church) that is left. And if the grant money of \$8,000,000 is not used in our community, it will not be given back to taxpayers, but redistributed to some other community for disaster protection. It makes sense for our community to use the grant we were given.

Thank you for your thoughtful consideration of this request.

Sincerely,



David and Bethany Swenning
44 Pentire Circle
Iowa City, IA 52245

August 28, 2012

Dear City Council and Staff:

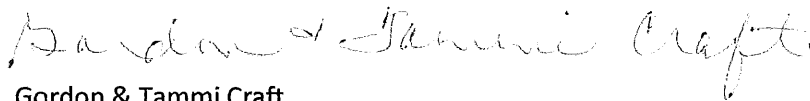
I am writing you today to ask that you vote in favor of building the Taft floodwall to help protect us - and the other 91 homes in the Idyllwild condominium complex – from the type of financial, physical, and mental devastation caused by the flood of 2008

Pre-flood, real estate was valued at close to \$30 million in Idyllwild, and the Taft Floodwall should help stabilize property values and support increased property taxes. We know there is concern over floodwall appearance. However, one need only to walk the streets of Iowa City to see the walls that have been built for many reasons, with many of them being interesting and visually appealing. A flood wall with a brick or stone facade could be an interesting backdrop to new landscaping and would certainly look better than a flooded church and 92 flooded condos!

The City Council has the opportunity and funding - at this moment- to choose to protect these homes without raising the flood levels for our neighbors. It would be remiss to do nothing and let the flood waters flow unabated next time around.

Please support the creation of the Taft Floodwall.

Sincerely,

A handwritten signature in cursive script that reads "Gordon & Tammi Craft".

Gordon & Tammi Craft
133 Pentire Circle
Iowa City, IA 52245

August 29, 2012

Dear City Councilors and Staff:

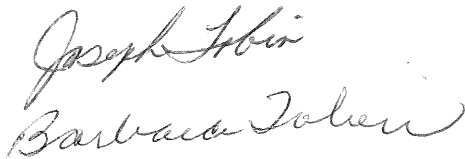
I am an owner of a condo at Idyllwild and am writing this letter to ask for your support of building the Taft Floodwall to protect the 92 homes in the Idyllwild condominium complex. I am concerned about the incidence of flooding in our neighborhood, and the increasing number of floods in the Midwest generally. A study released by the Natural Resources Defense Council and the Rocky Mountain Climate Organization have concluded that the storms which led to the Floods of 2008 in Iowa are part of a growing climate trend and likely to recur with growing frequency. It only makes sense to protect the areas of vulnerability.

Pre-flood, real estate was valued at close to \$30 million in Idyllwild, and a Floodwall should help stabilize property values and support increased property taxes. We know there is concern over floodwall appearance. However, one needs only to walk the streets of Iowa City to see the walls that have been built for many reasons, with many of them being interesting and visually appealing. A flood wall with a brick or stone facade could be an interesting backdrop to new landscaping.

It is a matter of fact that flooding is increasing in the Midwest. The City of Iowa City should be proactive and ward off the next disaster while the resources (HUD grant) are available.

Thank you for your thoughtful consideration of this request.

Sincerely,

Handwritten signatures of Joseph Tobin and Barbara Tobin. The signature of Joseph Tobin is written above the signature of Barbara Tobin.

Barb & Joe Tobin
43 Trevoise Place
Iowa City, IA 52245

August 29, 2012

Dear Iowa City Council and Staff:

I am a homeowner in the community of Idyllwild.

The reason for this letter is to encourage you to support building the Taft Floodwall to protect the 92 homes within the Idyllwild condominium complex that were ruined by the flood of 2008. As we know you are aware, Idyllwild was built with City approval a foot or more above the flood plain, but the landscape has changed over time to put some areas in the flood plain. And flood protection plans put into place in Coralville and other communities to our north may have an adverse effect on flooding us once again.

Under the best of circumstances, Idyllwild cannot possibly build a sandbag wall high enough, wide enough, or expansive enough to protect the 23 buildings in the development. Further, the Idyllwild HOA cannot fund a temporary flood protection wall due to its cost and the intensive labor required to put it in place in the event of a flood.

The Taft Floodwall will protect 92 families and real estate that was valued at close to \$30 million at the time of the 2008 flood. It will help stabilize property values and support increased property taxes. And lastly, the HDR Study shows that there is no hydraulic encumbrance upon our neighbors as a result of a proposed floodwall, even to the height of a 500 year flood level plus 3 feet.

We believe that a basic function of government is to protect the safety, welfare and health of its citizens. Idyllwild residents and owners pay their share of taxes, and look forward to paying more through increased property valuations. Please provide us that protection.

Sincerely,



Karlen & Robert Fellows
135 Pentire Circle
Iowa City, IA 52245

August 31, 2012

Dear Iowa City Councilors and Staff:

We are writing as concerned citizens who own 14 condos at Idyllwild.

We request that the Council take action now to protect this community. The HUD Community Development Block Grant of \$8 million will cover all or most of the cost at this time, lessening the burden to the taxpayers of our community. The Taft Floodwall will eliminate the need to raise Foster Road, as the levee will protect this roadway as well. And perhaps most importantly, the HDR study has concluded that the Taft Floodwall will not create a detrimentally higher water level for our neighbors on Taft Speedway or Parkview Terrace.

Idyllwild does not have many options for flood protection. Our development was not eligible for a FEMA buyout after the flood because as a condominium development, we are governed by a Declaration of Condominium which defines all 92 homes as an association and one large property, not individual units. Also, collectively, we did not meet the minimum damage requirements to be eligible for a buyout. We cannot raise our buildings higher due to the type of construction. We cannot protect ourselves with sandbags - with all the community resources that were available in 2008, we were unable to build a sandbag wall high enough and wide enough to protect the 92 homes at Idyllwild. With all the resources that were brought to bear, we put into place 350,000 sandbags, until we were out of time and still 150,000 sandbags short.

We believe that a basic function of government is to protect the safety, welfare and well-being of its citizens. Idyllwild residents and owners pay their share of taxes and deserve this protection.

We want and need flood protection, please spend the grant money in Iowa City and don't send it back to be redistributed to another community.

Sincerely,



Tom Bockenstedt & Celeste Holloway
3555 Dolphin Drive SE
Iowa City, IA 52240

Owners of:

21 Pentire Circle
131 Pentire Circle
141 Pentire Circle
147 Pentire Circle
12 Colwyn Court
14 Colwyn Court
18 Colwyn Court

41 Colwyn Court
12 Trevoise Place
18 Trevoise Place
47 Trevoise Place
21 Newlyn Circle
23 Newlyn Circle
25 Newlyn Circle

September 1, 2012

Dear Iowa City Councilors and Staff:

I am writing you today to ask that you vote in favor of building the Taft floodwall to help protect us - and the other 91 homes in the Idyllwild condominium complex – from the type of financial, physical, and mental devastation caused by the flood of 2008

With all the community resources that were available in 2008, we were unable to build a sandbag wall high enough and wide enough to protect our 92 homes – that would have required 500,000 sandbags! MMS concluded in the Flood Emergency Response Plan which they developed for Idyllwild, that permanent flood protection would be the most effective means to protect this area from another flood like the one we experienced in 2008.

Pre-flood, real estate was valued at close to \$30 million in Idyllwild, and the Taft Floodwall should help stabilize property values and support increased property taxes. We know there is concern over floodwall appearance. However, one needs only to walk the streets of Iowa City to see the many walls that have been built for many reasons, with many of them being interesting and visually appealing. A flood wall with a brick or stone facade could be an interesting backdrop to new landscaping.

It is our view that a basic function of government is to protect the safety, welfare and well-being of its citizens. Idyllwild residents and owners pay their share of taxes and deserve this protection.

Thank you for your thoughtful consideration of this request.

Sincerely,

A handwritten signature in cursive script that reads "Amy J. Becker".

Amy Becker

52 Pentire Circle

Iowa City, IA 52245

September 05, 2012

Dear City Council and Staff:

The reason for this letter is to ask you to support the Taft Floodwall to protect the 92 homes within the Idyllwild condominium complex that were ruined by the flood of 2008. We are owners of a condo in the Idyllwild community of Iowa City and have grave concerns about landscape changes over time that have put some areas of Idyllwild in the flood plain. And flood protection plans put into place in Coralville and other communities to our north may have an adverse effect on flooding us once again.

Under the best of circumstances, Idyllwild cannot possibly build a sandbag wall high enough, wide enough, or expansive enough to protect the 23 buildings in the development. Further, the Idyllwild HOA cannot fund a temporary flood protection wall due to its cost and the intensive labor required to put it in place in the event of a flood.

The Taft Floodwall will protect 92 families and real estate that was valued at close to \$30 million at the time of the 2008 flood, in addition to the Parkview Church and their property. It will help stabilize property values and support increased property taxes. And lastly, the HDR Study shows that there is no hydraulic encumbrance upon our neighbors as a result of a proposed floodwall, even to the height of a 500 year flood level plus 3 feet.

We believe that a basic function of government is to protect the safety, welfare and health of its citizens. Idyllwild residents and owners pay their share of taxes, and look forward to paying more through increased property valuations. Please support us in this quest.

Sincerely,

A handwritten signature in cursive script, reading "Burghard Schoenfeld". The signature is written in dark ink and is positioned below the word "Sincerely,".

Burghard Schoenfeld

126 Pentire Circle
Iowa City, IA 52245

September 17, 2012

Dear City Council and Staff:

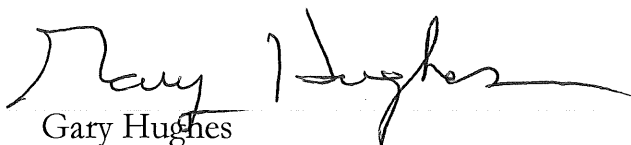
The reason for this letter is to ask you to support the Taft Floodwall to protect the 92 homes within the Idyllwild condominium complex that were ruined by the flood of 2008. We are owners of a condo in the Idyllwild community of Iowa City and have grave concerns about landscape changes over time that have put some areas of Idyllwild in the flood plain. And flood protection plans put into place in Coralville and other communities to our north may have an adverse effect on flooding us once again.

Under the best of circumstances, Idyllwild cannot possibly build a sandbag wall high enough, wide enough, or expansive enough to protect the 23 buildings in the development. Further, the Idyllwild HOA cannot fund a temporary flood protection wall due to its cost and the intensive labor required to put it in place in the event of a flood.

The Taft Floodwall will protect 92 families and real estate that was valued at close to \$30 million at the time of the 2008 flood, in addition to the Parkview Church and their property. It will help stabilize property values and support increased property taxes. And lastly, the HDR Study shows that there is no hydraulic encumbrance upon our neighbors as a result of a proposed floodwall, even to the height of a 500 year flood level plus 3 feet.

We believe that a basic function of government is to protect the safety, welfare and health of its citizens. Idyllwild residents and owners pay their share of taxes, and look forward to paying more through increased property valuations. Please support us in this quest.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Hughes", with a stylized, flowing script.

Gary Hughes
34 Camborne Circle
Iowa City, IA 52245

In The Matter Of:

v.

HDR Meetings

June 6, 2012

Thomas & Thomas Court Reporters & Certified Legal Video, L.L.C.

Phone (402)556-5000 Fax (402)556-2037

Original File 06-06-12 HDR Public Meeting.txt

Min-U-Script® with Word Index

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7 TAFT SPEEDWAY
8 FLOOD MITIGATION STUDY

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10 Public Meeting
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21 Parkview Church
22 Iowa City, Iowa
23 June 6, 2012
24
25

1 (Whereupon, the following proceedings were
2 had, to-wit:)

3 AUDIENCE MEMBER: My name is Joy
4 Gasher McKusick. I've been a part of the floodplain
5 in Iowa City since 1947 when my family built a home
6 off of Park Road. And personally I have owned a
7 home on Normandy Drive since 1969, so I have been a
8 part of the floodplain in more ways than one because
9 my spouse, Marshall McKusick, was the state's first
10 archaeologist, and I think if anyone had asked they
11 would have said that our forefathers had better
12 sense than to do that.

13 But anyway, my own comment is -- it really
14 isn't a question, it's simply my own opinion. And
15 that is that the floodplain which serves the
16 community is -- the best plan that you put forward
17 which would serve the entire community to my way of
18 thinking would be the raising of Foster Road. That
19 would serve the community very well. The rest of
20 it, I'm sorry, but I feel like you're still
21 recreating a big, big swimming pool.

22 But anyway, that's, again, personal
23 opinion. But the rest of the plan simply ignores
24 the risks that those of us on both sides of the
25 river who have chosen our own homesites and the

1 risks that go with it, and there is no positive
2 result for any of us or through Park Road or any of
3 the other alternatives. Thank you.

4 MR. ENGEL: Thank you.

5 AUDIENCE MEMBER: My name is Shelly
6 Easel (sp), and I live at 370 Port (inaudible).

7 I just have a question, can you tell me if
8 any of the 100-foot flood mitigation alternatives
9 would have decreased in 4 days of water that we had
10 in our home during the 2008 flood?

11 MR. ENGEL: The 2008 event I believe
12 was 655 elevation, around there. The 100-year
13 alternative that is shown up year at elevation 654.
14 The 2008 event was in excess or closer to a 500-year
15 event. The 100-year alternatives would not provide
16 mitigation for that, no.

17 AUDIENCE MEMBER: Thank you.

18 AUDIENCE MEMBER: Good evening. My
19 name is Greg Burdis. I live at 890 Park Place which
20 you have mislabeled as Parkview Terrace.

21 Question that I have for you is why did
22 you choose to model your hydraulics based upon the
23 intersection of Park Road and Rocky Shore at
24 500 feet upstream of Normandy Road? What are the
25 hydraulic impacts where people live -- specifically

1 what's the hydraulic impact on the south side
2 residence of Taft Speedway for any one of those
3 alternatives, why was that calculation not made,
4 likewise, where is the calculation of the hydraulic
5 impact on Parkview Terrace? That's where the people
6 are, and that's been a primary concern of many of us
7 from the very beginning.

8 The other point that I'd like to address,
9 the whole issue of esthetics. You've not identified
10 that as one of the impacts, but as a community do we
11 really want a 16-foot tall concrete wall stuck along
12 our river?

13 We're in the process of planning for a
14 county jail at the same time as we're doing this. I
15 submit that you've got the wrong objective for this
16 particular plan.

17 So those are my observations and
18 questions. Thank you.

19 MR. ENGEL: The first question was
20 why do we need to go over those two locations? Why
21 weren't they chosen? I got the information, that
22 shows were the greatest impacts -- where the
23 greatest impacts in water surface elevation were
24 immediately upstream of the proposed alternative.
25 So I wanted to highlight the maximum, and I chose

1 those two points for the handout in the report that
2 will have the entire -- that have all those lines,
3 all those sections all the way through. I've got
4 that information that HDR provided and a summary
5 showing what the maximum impacts were.

6 As far as impacts just south from a
7 hydraulic standpoint, when you look at flows
8 approaching the bridge or flows that are converging
9 in water surface profile. I think for that area,
10 just for the Taft Speedway residents, just south of
11 Taft, it's maybe on 100th of a foot decrease in
12 water surface elevation because of that drawdown
13 loss an increase.

14 The second question was esthetics, yes,
15 that will be in the report. They're certainly are
16 esthetics in both Taft Speedway, there's esthetics
17 impacts to Idyllwild residents. I spoke to a woman
18 last Thursday that brought up are there
19 impacts -- esthetic impacts from City Park looking
20 across the river and what are those, so yes.

21 AUDIENCE MEMBER: I'm Wally Taylor.
22 I'm an attorney from Cedar Rapids representing the
23 folks south of Taft Speedway.

24 I went back and looked at the request for
25 qualification they call it for this project, winning

1 bid or losing. And the objective was to determine
2 the feasibility of constructing a levy by elevating
3 Taft Speedway and Normandy Road. Special attention
4 came to the impact it would have on the residents
5 living south of Taft Speedway. Items to be
6 considered are property values, accessibility,
7 insurance coverage, relocation of utilities, funding
8 of scheduling. In addition other alternatives
9 should be considered and researched based on the
10 specific impacts each alternative would have on Taft
11 Speedway and Idyllwild residents.

12 Out of all these alternatives, it looks
13 like the focus of every one of them is to protect
14 the areas north of Taft Speedway, but the south of
15 Taft Speedway are just collateral damage. There's
16 been no indication that there's been any kind of
17 design or analysis or any consideration for what's
18 going to happen to them when the water is stopped by
19 this levy or flood wall. It all goes right back on
20 to the folks south of Taft Speedway.

21 So I don't see anything in that regard.
22 Maybe the draft report will have more on that, but
23 we don't have a report to look at yet. So when I
24 came here tonight, I was going to ask where in the
25 heck is the report, but you've explained that

1 already, we don't have one yet. I'm assuming that
2 that draft report at the end of the month will be on
3 the website.

4 MR. ENGEL: Absolutely.

5 And I think to answer your question, if
6 you look at the impact side of things certainly
7 accounted for the majority of those that you spoke
8 about, access, hydraulic impacts, utility impacts,
9 ingress and egress for those residents, absolutely.

10 AUDIENCE MEMBER: Can the public
11 comment on the draft report?

12 MR. ENGEL: Absolutely.

13 AUDIENCE MEMBER: My name is Marilyn
14 Rosenquist, 323 Mullin Avenue. I would like to know
15 where the money would come from besides the federal
16 money, is it going to be state property tax,
17 city-wide property tax to pay for this?

18 MR. REICHART: Besides the a little
19 over \$8 million we have, I guess, available for this
20 project, CGG funding. We have a little over
21 \$11 million total in the budget, and that includes
22 general obligations, bonds for the initial fiscal
23 years and stuff, and that's included in that.

24 AUDIENCE MEMBER: Well, as we're
25 looking at the county jail, the fire at the

1 landfill, this is something that you want to use
2 city-wide property tax for? It just seems
3 inappropriate at this time.

4 I also want to say I'm very uncomfortable
5 with one neighborhood being pitted against a second
6 neighborhood with property tax.

7 AUDIENCE MEMBER: I'm Douglas Jones,
8 816 Park Road. I'm wondering about one alternative
9 that you didn't describe, and that is every single
10 alternative had the same basic math. All these
11 point to all the way to Dubuque Street and then went
12 back diagonal along the creek, that seems to be
13 going out of your way. And it strikes me that
14 that's protecting, I think, a baseball diamond
15 behind this church, and somehow the value of that
16 baseball diamond strikes me as being a little bit
17 low.

18 Why not just stop the projects right
19 beyond this building and go straight up to the
20 corner? That would cut off a great big chunk of a
21 16-foot high levy, and it would shorten the total
22 length of the project by several hundred yards. I
23 suspect that would save money.

24 With that said, I can't see how we justify
25 spending that kind of money. I can see spending

1 \$3 million to raise Foster, but I can't see spending
2 \$10 million to build this enormous project. So I
3 have to agree with my former next-door neighbors
4 that Alternative 2B seems to be -- Alternative 2B
5 seems to be the right one.

6 MR. ENGEL: Thank you.

7 AUDIENCE MEMBER: I'm Mark Phelps,
8 115 Taft Speedway.

9 Could you go back to your drawing, your
10 elevation drawing, the 500-year where it showed the
11 flood wall? I want some clarification.

12 Now, that's 100-year condition, none of
13 these alternatives are at the 500-year condition as
14 to where your flood wall is, so are we to assume
15 that flood wall is going to be in your drawing there
16 as depicted 3 feet additional if it's a 500-year
17 plus 3 feet?

18 MR. ENGEL: That's a great question.
19 This is the -- it's the 500-year flood wall
20 condition, it should be 500-year plus 3 feet.
21 That's the elevation that's reflected in the
22 500-year. That's elevation 660, and what we did is,
23 again, we have a survey, we had some spot elevation
24 applied to our data, and we accepted the house
25 foundation as 651 or 652. We pulled off the spot

1 elevation at the sight of Taft Speedway. I think it
2 was 649 at that location, so that's 11-foot high
3 wall.

4 AUDIENCE MEMBER: My other question
5 is the road on Taft Speedway, a no name road, are we
6 to assume that you're building that to the standard
7 of what a current development would be inside of
8 Iowa City?

9 MR. ENGEL: This is a two-lane rural
10 section. I understand that there's a urban/rural --

11 AUDIENCE MEMBER: Iowa City says city
12 limits doesn't have any rural codes, so current code
13 is for 28 feet. There's been an exception made for
14 the peninsula at 25. We're at 22. So the way you
15 have this drawing here, I mean, you're going to have
16 a 22-foot silicone road with no sidewalks for
17 pedestrian traffic, and a 16-foot plus wall on the
18 side of it. Isn't that only asking for a chance of
19 somebody getting severely hurt with a car since this
20 is a highly traveled road with joggers, cyclists
21 coming from Dodge Park to City Park.

22 So we haven't had any consideration for a
23 trail or sidewalk in any of these drawings?

24 MR. ENGEL: It's not incorporated.
25 Just replaced what was existing. You're right, if

1 that's a city code, there would need to be some sort
2 of variance. Is there a sidewalk there now?

3 AUDIENCE MEMBER: No.

4 MR. ENGEL: Do people walk along
5 there now?

6 AUDIENCE MEMBER: Yeah, but if we're
7 a developer and we want to go and build a
8 development, we have to be at 28 feet so how are we
9 getting by at 22 feet?

10 MR. ENGEL: Thank you.

11 AUDIENCE MEMBER: Thank you.

12 AUDIENCE MEMBER: Hi. I'm John
13 McAntee, we live on Park Place, and I have an office
14 on Foster Road.

15 I know that several of those plans you
16 described will protect our future in Idyllwild.
17 This isn't a 5-year flood, but I'm not sure what
18 would happen if there is an even higher flood that
19 you have description without tier flood or what we
20 had in 2008? It seems not a question of if but when
21 we're going to get another flood since we had this
22 2008, and I think the bigger picture in this should
23 be what can we do to better manage a water runoff in
24 the whole region, you know, this closed area is
25 important.

1 I got to attend a really nice one workshop
2 in Coralville in September 2009, and there were
3 presentations by William Peterson, Ryan Peterson,
4 and others, who with university -- I mean, state of
5 Iowa, part of that, and they spoke about how we can
6 improve water -- rain water management in our region
7 in order to defend most of the problems that result
8 from unwanted water runoff and flooding.

9 I wanted to make the point that the best
10 solutions with unwanted water runoff and flooding,
11 they understood measures of sustainable water
12 management on farms and cities with increased
13 infiltration and soil permeability such as bias
14 well, rain gardens, permeable pavings, and better
15 agricultural practices.

16 These affected measures would require
17 several cooperation between equal government
18 agencies throughout the city, throughout the basin,
19 however, this sustainable rain water management
20 solution will be far more cost effective and
21 probably cheaper than what is being done now which
22 is mainly more into temporary mandate fixes of flood
23 damages being done now since the 2008 flooding. I
24 think that we should be planning and implementing a
25 better and more cost effective sustainable

1 measurements to prevent damage for the next major
2 flood. Thank you very much.

3 MR. ENGEL: Thank you. To answer
4 your question in an event -- where there is an event
5 out there that will occur that we'll overcome.

6 AUDIENCE MEMBER: My question was not
7 if but when.

8 MR. ENGEL: Right.

9 AUDIENCE MEMBER: I'm Cathy Wilcox,
10 and I live on Taft Speedway Street. And I have a
11 question about the timeline, so this might not be
12 something that consultants can answer but perhaps
13 Jason from the city.

14 If I recall correctly, you stated that
15 this could go to city council in August, and I would
16 like to express my concern that I think the last
17 time around that this came up, it will almost be a
18 year, and again it was in August, and August is not
19 a very good time, clearly everybody in Iowa city
20 with the university out, people on vacations, and so
21 I would recommend that they look at September.
22 Thank you.

23 MR. ENGEL: Thank you.

24 MS. BAKER: Do we have any new
25 comments?

1 AUDIENCE MEMBER: I'm Sally Cline,
2 and I live in Idyllwild. One of the things I do
3 want to point out that Parkview Terrace is where the
4 people are, there's 92 people in Idyllwild, 92
5 households.

6 MS. BAKER: Try talking up here to
7 the camera. Thank you.

8 AUDIENCE MEMBER: And we're there,
9 and we're back after the floods. And we in
10 Idyllwild are impacted three different ways. One's
11 from the north coming down from those 240 acres, and
12 if they do develop that trailer park up there,
13 there's going to be even more concrete for the water
14 to come down. We're also impacted from Foster Road
15 coming from the west to the east into our oil basin,
16 and then again we're impacted from the river. I
17 just don't think the building and raising Foster
18 Road is reasonable. It certainly gets access to the
19 community up above Foster Road, but it certainly is
20 going to do nothing for any of us that are trapped
21 behind that Taft Speedway as well as Idyllwild. So
22 we really do encourage all of us looking at other
23 alternatives.

24 I do have a question for you, I'm
25 confused, and I confuse easily, but I need to know

1 the difference between the Alternative 9A and 9B.
2 To me they're the same, except for the money
3 difference.

4 MR. ENGEL: Right. The difference is
5 in 9A there's an area -- what we looked at in 9A was
6 the combination of the levy on either side where we
7 got away from the spacing restraints and just a
8 flood wall along the back or north side of Taft
9 Speedway. There was no rebuilding of Taft or
10 impacts on that alternative. What we were trying
11 accomplish for every -- we're talking about a wall
12 of that height, free-standing walls, a standing
13 structural measure, so we looked at what could we
14 raise Taft Speedway and elevate it so that the
15 wall -- so with this alternative includes, again, a
16 levy over here, you would raise Taft Speedway within
17 the right-of-way in the maximum raised about 3 and a
18 half feet can be accomplished within a right-of-way.

19 So your wall height instead of being -- I
20 can't read those, instead of the wall height being
21 13 feet here, maybe it's 10 feet now, is at the same
22 elevation to accomplish 3 feet of girth and then
23 10 feet with wall as opposed to the previous one,
24 Wall 13B was a concrete wall and what we found was
25 we thought the reduction of the wall heighth would

1 be a reduction of cost, it would include that this
2 alternative, we start raising the elevation of Taft,
3 removing and replacing the pavement, there's
4 sanitary sewers underneath there, they have low
5 impact on. So that's what the difference between
6 the two alternatives is.

7 AUDIENCE MEMBER: Okay.

8 MR. ENGEL: Does that make sense?

9 AUDIENCE MEMBER: No, it doesn't.
10 I'm sorry. Because when you look at this, they're
11 both raised 3 feet, so what it is the 3 feet between
12 9A and 9B?

13 MR. ENGEL: That is the height,
14 that's the parenthesis, the height, 100 year plus
15 3 feet, the 100 year plus 3 feet, that's the top.

16 AUDIENCE MEMBER: That I understand,
17 then B is raising Taft Speedway that 3 feet then
18 bringing -- got it. thank you.

19 MR. ENGEL: I apologize for the
20 confusion. Great question.

21 AUDIENCE MEMBER: Drew Gillman,
22 845 Normandy Drive. And I had a couple of unrelated
23 things, one of them is that seems in general you can
24 give some idea, you can't tell exactly, but at least
25 get some idea where the narrow places of the river

1 are going to be. It's pretty simple that if you
2 have a cross section of the valley and how fast the
3 water's flowing, you can pretty well calculate the
4 whole thing now.

5 It's when you make that corner there,
6 it's -- you can draw a straight line across there on
7 the map, and that's a pretty narrow place in the
8 river compared to other places. That -- to me it
9 would make a lot more sense for that -- for the
10 first comment was made, I think raising Foster Road
11 would be better because you eliminate that narrowing
12 of the valley there, while the drain isn't very
13 effective now in that entire development, it is
14 effective into and across that corner right there.

15 One thing that you didn't discuss, and I
16 assume there must be some very good reason for not
17 doing that. It is an obvious way to eliminate that
18 narrow place there would be to build across on the
19 other side of the pond, put the wall right against
20 the housing development that's there which would
21 then allow a couple of big benefits: One of them
22 most of the residents who are living right along the
23 river on the south side of that wouldn't be as
24 impacted if you put the wall right against the
25 housing development.

1 MR. ENGEL: You're talking about
2 right --

3 AUDIENCE MEMBER: Yeah, something
4 like that, just cut that off, then you don't have --
5 a lot of the flow would be much better through that
6 corner. And it would also eliminate a lot of the
7 little things where you had to do with getting down
8 to the houses, and it would change the impact -- the
9 people that will were living in that would be more a
10 little more impacted because the wall would be
11 pushing upon, but everybody else would have a
12 beneficial impact for that I assume. I just wanted
13 to ask you about that.

14 Another question that relates to that is
15 the second factor that I mentioned determines the
16 height of it, how high it's going to be is how fast
17 the water is flowing in there, and directly across
18 that narrow place we created there are all the ball
19 diamonds which have fences sticking up which during
20 the flood collect paper and other things against
21 those and slow the flow of the water through there,
22 and I was wondering is there anybody that's talking
23 about some way of if there's going to be a flood, if
24 not taking those fences down, to allow the water to
25 flow through more quickly through that narrow point

1 which would have a strong beneficial effect for
2 those of us.

3 MR. ENGEL: That's a good comment.
4 Did those fences fail in '08?

5 AUDIENCE MEMBER: I don't think so.

6 AUDIENCE MEMBER: Janet Linn,
7 Idyllwild. I have a question for Jason about the
8 state dollars, are the CGG dollars fungible, or are
9 they dedicated to flood mitigation?

10 MR. REICHART: In relation to this
11 project, the original application was for flood
12 mitigation in the area, so they would have to be for
13 flood mitigation project.

14 Am I understanding your question
15 correctly?

16 AUDIENCE MEMBER: If we don't use
17 them for flood mitigation, they go back to the
18 state?

19 MR. REICHART: That's right.

20 AUDIENCE MEMBER: My name is Joel
21 Wilcox. I live on Taft Speedway. I've got a
22 question and follow-up if I may.

23 I think probably the least controversial
24 of the alternatives is the raising Foster Road.
25 Most people would feel like, gosh, we got that out

1 of this whole process, that would be a good thing
2 because that was already in the works before, I
3 think, the money was approved for it. And we did
4 get Mr. Bulldon (sp) pay for that, that would be
5 good for the city I think. I think that would be,
6 but I don't know -- I'm curious as to how that got
7 into what was studied at all because my
8 understanding was that this study was requested
9 specifically to look at the impact of those
10 alternatives on the river front neighborhoods.
11 That's my question is how did this get in the study?

12 MR. ENGEL: The one -- when we were
13 doing one to kind of build the other alternative,
14 then we said, well, what is the providing access
15 only, and then what is the access plus flood
16 mitigation benefit? It's kind of a build, showing
17 the incremental costs associated with it.

18 AUDIENCE MEMBER: Well, do nothing
19 what we do for my neighborhood, leave it as it is,
20 and we would know, but Foster Road does nothing for
21 my neighborhood to improve my neighborhood. It
22 doesn't do really anything for Parkview Terrace so
23 including it seems to be just a -- sort of
24 meandering off of the topic to some degree.

25 MR. REICHART: I think we use it as a

1 reference point as well because I believe if we were
2 to raise Foster, we wouldn't be available for the
3 CGG funding so, therefore, that would be fully
4 funded by the city. We could then use that as
5 somewhat of a comparison between alternatives as,
6 you know, what the city would pay for, what the
7 grant would cover, you know. So it's not
8 necessarily, you know -- it still provides access,
9 but there's no flood mitigation benefits provided by
10 it, but that's still -- you can still use that as a
11 cost reference.

12 AUDIENCE MEMBER: I'm not against it.
13 I just wondered how it was relevant.

14 The other question that I wanted to ask is
15 when I go out and look on the internet and read
16 about -- just Google the phrase no adverse impact, I
17 get a lot of sites that come back and tell me
18 about -- it's advisable for the municipalities not
19 to create adverse impact in places like floodplains
20 to improve the situation, and you make it worse for
21 somebody else that can become liable for damages.

22 Now, I've heard you talk in terms of if we
23 do such and such at some later time, this project
24 down river, we may in a sense overall improve the
25 situation on the stream by something like half a

1 foot or tenth of a foot, but that's all hypothetical
2 waiting to happen somewhere down -- somewhere later
3 in time. And I'm not even sure whether -- when that
4 becomes a status quo, and I'm still in an adverse
5 way compared to my neighbors because of something
6 that the city did. I'm not certain that the city
7 hasn't been set up to be liable for it.

8 Now, is this part of any of the study that
9 you've done at all in any way?

10 MR. ENGEL: So what I understand your
11 question to be is what under existing impacts we
12 could add, what's out there right now?

13 AUDIENCE MEMBER: What are the legal
14 obligations to the city and citizens of Iowa City,
15 do any of those projects or any of these
16 alternatives as a result? Thank you.

17 AUDIENCE MEMBER: I'm Mary Catherine
18 Wallace at 45 Colen (sp) in Idyllwild.

19 And my first question is what is the
20 100-year flood level now? How has it changed -- we
21 bought it in 2005, and when we bought in Idyllwild,
22 we were told you don't need flood insurance, you
23 can't buy flood insurance and after the 2008 flood,
24 we were informed that the 100-year flood level
25 included some of Idyllwild. And so my

1 question -- first question is the 100-year flood
2 level now and how has it changed?

3 MR. REICHART: You're correct in
4 saying your comment when Idyllwild was constructed,
5 it met the National Flood Development guidelines,
6 and so the structures were built to 1 foot above the
7 100-year flood elevation at that time. I believe it
8 was in 2007 they made a revision. FEMA came through
9 and remapped the floodplains. When they did that,
10 they found that three of the structures were now
11 inside the 100-year floodplain.

12 As far as your question about insurance, I
13 think anybody who's in any floodplain is eligible
14 for insurance. That's more of a individual-type
15 inquiry I guess, so I think it's hard to say. With
16 FEMA doing map revisions which I believe will --
17 we're looking at, I guess when everything's in place
18 with all the planning stuff, then it's constantly
19 changing the flood elevations and, you know, the
20 100-year events and storm events, that's all based
21 on accumulated data so it is constantly changing
22 because it's relative to the building.

23 AUDIENCE MEMBER: Right. I
24 understand that it is constantly changing and the
25 important connection to inform people that are

1 living in that area. We were not informed of that.

2 And, again, I know that -- now I know that
3 we were eligible for flood insurance, but we asked
4 the right questions and the answers were consistent.
5 And so for me when I'm hearing comments I want
6 people to know our homes -- you're talking about our
7 homes, it's not that development, it's our homes.
8 And I invite you to come and visit me in Idyllwild
9 and know that we made a decision to move from a
10 large home with a bigger footprint to be within
11 walking distance of Iowa City and establish a home
12 here. And we are in Idyllwild because of a decision
13 many years ago by the city council, and if nothing
14 is done to protect the 92 families that are living
15 there, it's another mistake in my opinion that the
16 city will be making if we do not protect Idyllwild
17 and everyone else.

18 MS. BAKER: We have about 20 more
19 minutes for comments, 23 to be exact, before we have
20 to exit the church. So I just want to remind
21 everybody try and stay on time with their comments.
22 Additional comments can be taken outside after we
23 exit the room.

24 AUDIENCE MEMBER: I'm Terri Miller
25 Chait. I own eight condos in Idyllwild. I have

1 three sites where I can build twelve more. The
2 development hasn't been -- was not in the floodplain
3 when it was built, and I would like to be able to
4 finish up the development. I know that will add
5 more families to that area, but it also increases
6 the property tax roles of the city. And I think
7 while those three homes would also enjoy the
8 protection of the floodplain, there are 92 families
9 already there.

10 So I have to say I'm very interested in
11 seeing the project move forward at the 500 plus
12 3 feet. Many sources have come out saying -- and
13 this includes the DNR -- that this flood event of
14 2008 is not an isolated event. The landscape has
15 changed greatly over the last 20 or so years to the
16 point where a flood event is not once in a lifetime
17 like it used to be, or maybe it never was, but it
18 certainly is not now. And if the flood elevation of
19 that area is constantly changing, I think that there
20 needs to be some protection there.

21 Just as California -- the state of
22 California builds to protect buildings against
23 earthquakes, Florida protects against hurricanes,
24 Iowa City needs to protect against these floods.
25 This is not only part of our history, but the floods

1 are going to be part of our future too. We have the
2 opportunity now to mitigate this area from flood for
3 these families, and I think Iowa City should accept
4 the responsibility and do so.

5 I do have a question also, and it has to
6 do with flood gates. I just would like some
7 explanation of what they are and what they do.

8 MR. ENGEL: Floodgates -- and that's
9 a great question and one that I have not addressed,
10 they are actually a hole in the wall to allow
11 access. And I didn't have any photos included in
12 here, but there are three accesses to the church,
13 and on this there's three accesses to the church
14 over here to allow for ingress and egress, you could
15 have a physical barrier there, it would be --

16 AUDIENCE MEMBER: Unless there was a
17 flood event.

18 MR. ENGEL: Exactly. And there would
19 be gates in full height moved in place. There
20 would be a foundation, and that would be sealed up.
21 Typically you see it in a lot of railroads, you see
22 them all around the flood walls, there's an access
23 issue. They can usually be in place within 3 hours.
24 Thank you for the question.

25 AUDIENCE MEMBER: My name is Mary

1 Murphy. I live in Parkview terrace. And I have to
2 say that having listened to a couple of the comments
3 here, most notably by Terry Shapler and Sally Cline,
4 I'm beginning to feel like Parkview Terrace is the
5 unpopular stepchild here. We like to think of
6 ourselves as equally important.

7 I think the primary question we need to
8 ask ourselves here is really what is in the best
9 interest for the Iowa City community and as a whole?
10 Idyllwild can clearly protect itself at this point
11 in time by purchasing flood insurance, and the condo
12 association board this time around set up a reserve
13 to cover damages not covered by flood insurance.
14 That's certainly a lot less expensive for the
15 ordinary Iowa City taxpayer such as myself and
16 people who are retired than it would be to pay for
17 any of this flood mitigation.

18 And I would point out that the property
19 tax rate in Iowa City is currently a lot higher than
20 in North Liberty and Solon, and I'd hate to see it
21 go any higher. I certainly don't want my property
22 tax dollars used to repay general obligation bonds.

23 And I'd like to remind everyone that a CGG
24 grant is not free money, it's our federal tax
25 dollars. And if we don't use it, it goes back to

1 the state of Iowa. It will be redistributed to the
2 2008 flood relief.

3 Next, one of the reasons the city thought
4 it needed a levy or general application for funding
5 was to put a road on top of it and provide a
6 secondary access to the peninsula. That clearly
7 can't be done. Foster Road does provide the only
8 access to the peninsula, and that was known when it
9 was developed by the city. That road can certainly
10 be raised to provide access for far less cost than
11 any of the flood mitigation alternatives.

12 Additionally that road is going to develop the land
13 by Dubuque Street and another road can be put
14 through there.

15 Now, some of the alternatives included the
16 100-year flood option for mitigation, my question is
17 what's the point? Jeff Davidson our city planner
18 said himself that in December of 2010, that wouldn't
19 have protected against the 2008 development.

20 My next big concern is the esthetics of
21 the project. Levies are a lot like pigs as are
22 flood walls. You can put lipstick on a pig, but it
23 still looks like a pig. So what we're going to have
24 here is a big concrete wall when you put a flood
25 wall in. It's going to look like everybody's in a

1 prison. The cost of making it pretty, if you even
2 could, are not included in the cost we're seeing
3 here tonight.

4 Next, Iowa City is going to improve the
5 Dubuque Street entrance. When people come to visit
6 me and they enter Iowa city off of Dubuque Street, I
7 would prefer that they not see big flood mitigation
8 in the form of a earth and levy or a flood wall.
9 That entrance should be a green beltway, it should
10 be attractive. It should make people want to get
11 off the interstate and come into Iowa City.

12 I would also add in terms of esthetics
13 that the impact of our city park ought to be
14 analyzed. When I bike or walk or run along the path
15 along city park, I don't want to look across the
16 river and see a concrete wall or a levy or some
17 combination thereof. I want to see expansive
18 landscape. At the time when other cities are
19 embracing our connection to the river, it seems a
20 shame that we're talking about building a flood
21 mitigation.

22 I also have some practical questions. My
23 question is how does the city plan to get Idyllwild
24 residents to agree on whether the grant one or more
25 easements to get this project done? Not all

1 Idyllwild residents support the levy, yet all own an
2 undivided interest in the whole common area. The
3 condo quickly bought out even though the property
4 owners could have been eligible, but they couldn't
5 get agreement over there. It is true and Mike
6 Crawford stood up at a city council meeting and
7 requested that the buyout offer be withdrawn so they
8 can secure additional relief, and that's reflected
9 in one of the city council transcripts.

10 My next question would be are the
11 consultants going to issue agreements to those
12 property residents who may be impacted along with to
13 the city of Iowa City in case design alternatives
14 turn out to be wrong and you turn out to be wrong
15 about the stability of all of this?

16 Then I got a really practical question, if
17 a flood wall is built, any time I've ever seen a
18 concrete structure, invariably someone comes along
19 and puts graffiti on it, what are you doing to do
20 about that? Who's going to maintain that and make
21 sure that there is no graffiti on the flood wall
22 protecting a very expensive condominium building?

23 MS. BAKER: I think we have several
24 questions asked.

25 AUDIENCE MEMBER: Could I just finish

1 up real quick? I do want to object that the
2 consultant who did the hydraulic modeling isn't here
3 tonight and was not here last week. I don't see any
4 supporting documentation. I live in Parkview
5 Terrace, I know if you close off the river basin,
6 the water's going somewhere. We don't want it in
7 our neighborhood. And I have to say that if the
8 developer would get a flood and then build
9 additional condominium buildings, it's horrible
10 public policy. We shouldn't be building in a
11 floodplain.

12 Finally, I want to say I'm willing to live
13 with the risk I bought. I'd like to see everyone
14 else do the same. The river is not a surprise for
15 those of us who live here, it's clearly visible from
16 Idyllwild if you're walking through it, it's visible
17 from Taft Speedway, they admirably accepted the
18 risks, it's visible from Parkview Terrace if you
19 walk around Parkview Terrace. Everybody should have
20 to live with the risk they bought. We all bought
21 on --

22 MS. BAKER: We'll go ahead and answer
23 the questions now.

24 MR. ENGEL: The point of the 100-year
25 flood alternatives, they were as comparison from

1 100-year to 500-year, so it's another incremental.
2 It would provide some protection 3 feet above the
3 100 year elevation which was the purpose of those.

4 As far as esthetics, as I referenced
5 earlier, we heard about last week. Tonight was not
6 only the impact of Idyllwild but also city park from
7 esthetics across the river.

8 As far as how the city acquired easements
9 es from Idyllwild, that's kind of beyond our -- what
10 we can identify easements to be required. That is
11 something that would have to be addressed as the
12 project moves forward.

13 As far as -- we have a standard design and
14 practice liability that cover issues. Graffiti,
15 absolutely, it seems like everything gets tagged.
16 There are some treatments to make removal easier,
17 but it would have to be the biggest issue would be
18 included.

19 And hydraulic modeling, Mike Ryan who did
20 the modeling is here.

21 The report, as I said, you can get a copy
22 of it and it will be included in our draft report
23 and will be available to view.

24 AUDIENCE MEMBER: Can we put that
25 online?

1 MS. BAKER: We will. And we'll hold
2 extra comments until after.

3 AUDIENCE MEMBER: My name is Robert
4 Benson. I live at 22 Cold Court in the Idyllwild
5 group.

6 There is no relevance as to the 100-year
7 flood as I see it. Do you know who caused the flood
8 of June 22, 2008? These questions still come up in
9 a paper this morning. It was a question a lot of
10 people do not know what caused the flood. The flood
11 was caused by the Corps of Engineers. In '84 I was
12 leaving Iowa City going back by near the reservoir
13 and the water was halfway up the hill to the
14 apartments above, and so the order came from the
15 Corps of Engineers because the water had risen some
16 in the reservoir. "Open the gates," they yelled.
17 And so the gates of the reservoir dam were opened
18 wide, and all of the water poured out into the
19 streams in Iowa River, and that's what caused the
20 flood in case people don't know what happened.

21 I don't realize that that will happen
22 again very early. I predict that that will be
23 controlled in the future by the dam that was put in
24 there because four -- three other dams were built at
25 the same time around the Midwest.

1 So I just wanted to mention that so now
2 you know what caused the flood of 2008.

3 Will it happen again? Who knows. Thank
4 you.

5 MR. ENGEL: Thank you.

6 AUDIENCE MEMBER: Robert McCain, 1438
7 Holdline (sp) Avenue, Iowa City.

8 For the do-nothing alternative and the 2A
9 alternative, raise Foster Road, and I don't know
10 that there is any segment in your draft report that
11 addresses available financial mitigation. It's not
12 flood mitigation, but it's financial mitigation
13 that's available to residents on the floodplain of
14 purchasing flood insurance from the national flood
15 insurance program. And I think it's important that
16 some sort of approximate cost to residents in this
17 floodplain area be provided for purchasing flood
18 insurance or for all the residents in the floodplain
19 area be provided to the city council under those two
20 alternatives. So the city council can see some
21 dollar differences between spending on
22 infrastructure or flood mitigation, and residents
23 spending on flood insurance for financial loss
24 mitigation.

25 So I would like to see that comparison

1 offered in the draft report to the city counsel so
2 they have that information.

3 MR. ENGEL: Withstanding the annual
4 policy costs?

5 AUDIENCE MEMBER: Correct. Yeah.
6 Yeah. I assume that everyone in the floodplain in
7 this area is available -- is eligible to purchase
8 flood insurance from the national flood insurance
9 program.

10 MR. ENGEL: That was good
11 information. Thank you.

12 AUDIENCE MEMBER: My name is Ryan
13 Leary. And I just wanted to echo a sentiment that
14 was done quite earlier by Mrs. Wilcox. I think for
15 the benefit of the 99.9 percent of people who aren't
16 here tonight and the 99 percent of people that don't
17 live in the affected area, I think September and
18 October would be a much more appropriate time for
19 the council to consider this.

20 There's a lot of discussions that go on
21 through social media and through council meetings
22 and through the newspaper comment section, and I
23 think if you took a survey of people walking down
24 every grocery store in this county, you'd get a
25 pretty accurate sentiment of what people think of

1 this. Thank you.

2 MR. ENGEL: Thank you.

3 AUDIENCE MEMBER: My name is James
4 White, 121 Taft Speedway.

5 One thing I want to mention about flood
6 insurance, it does not cover anything outside of the
7 building. So flood insurance will not cover your
8 yard, and if there's a levy built and the water
9 increases in turbulence and speed, it will eradicate
10 and erode your yard. That -- replacement of that
11 yard, that land, that soil is at your expense, all
12 the trees, all the shrubs, all the driveways,
13 sidewalks, you lose are at your expense. So that's
14 one thing.

15 The other thing one of the gentleman
16 mentioned about narrowing of the river. I don't
17 have a pointer here, but right where -- right where
18 no name road is, it was going into the river there,
19 that river wants to go straight. If the river wants
20 to go straight, believe me, because I live right on
21 that corner, okay. The river, it bends and kind of
22 it turns to the bottom of the screen, but it wants
23 to go straight. In other words, you build a levy
24 there, you build a concrete wall, it just is going
25 to love that because it's going to go right straight

1 right along there, and as they found out in Des
2 Moines County, as they found out in Lake Delhi,
3 earth and levy do not withstand that kind of
4 pressure. You ever saw those YouTube drinkers, go
5 out to Lake Delhi, you won't want to live on any
6 side of the levy. So that river is going to go
7 really fast and going to go right alongside there.
8 There's no guarantee that anybody is going to be
9 protected.

10 Now, in 1993 before I tore down the old
11 Engler Cottage that had a separate garage that stood
12 by itself side, 10 feet away from the home that was
13 built in 1990. And by the way it stood the 1993
14 flood, we never had any water in the place. It was
15 3 feet going in the door. I will tell you between
16 the garage and between that house, in that 10-foot
17 area, that river scoured out a path -- a ditch that
18 was about 8-feet wide and I would say 30-feet long.
19 It just dug a hole right through. That didn't move
20 the house off the foundation, didn't move the
21 garage, but that's what's going to happen. Now I
22 have a garage, it's not a very big garage. That's a
23 pretty big levy.

24 So I'm proposing I think in Des Moines
25 County just north of Burlington, they had a serious

1 situation, very similar to this, and I have
2 photographs of that.

3 MR. ENGEL: That was right along here
4 where you had that --

5 AUDIENCE MEMBER: Yeah. Right -- to
6 the right. See that corner, that bend, it wants to
7 go straight. In fact the reason it wants to go
8 straight for you historians because it wants to go
9 where it used to go, and that was to provide water
10 to the mill because the water really actually went
11 north, then came south. So where Carol Miller Park
12 is now, they didn't have a mill there for nothing.
13 It wasn't on dry land. So that's where the river
14 wants to go. Thank you.

15 MR. ENGEL: Thank you.

16 MS. BAKER: Are there commenters that
17 haven't had an opportunity to speak before we have
18 our final two comments?

19 AUDIENCE MEMBER: This is important,
20 but it seems like compared -- it seems small
21 compared to the big picture, you know. I'm looking
22 at what's happening throughout the Mississippi River
23 valley basin and elsewhere, and really there is
24 potential flooding anywhere and everywhere depending
25 on we have drain fall in a certain amount of time.

1 Our goal is to minimize flood damage. The best way
2 to achieve that is to increase soil infiltration and
3 permeability so that rain water won't run off and
4 increase the rivers.

5 400 years ago, Eastern Iowa was covered by
6 prairies and woodlands and soil had much better
7 permeability and much less rain water running of.
8 It's obvious we're not going to go back to various
9 woods like it used to be 400 years ago, but I really
10 wanted to encourage anyone who's interested in
11 preventing flooding and flood damage just to find
12 out about and support more comprehensive and
13 effective sustainable rain water management
14 practices to improve soil infiltration and
15 permeability.

16 Okay. Now, I want to make time for you.
17 Thanks a lot.

18 MR. ENGEL: Thank you.

19 AUDIENCE MEMBER: I just want another
20 clarification on your pile ons. And all these
21 designs are you not using pile on then? You're
22 using a T-wall to build below 10 feet or so, so
23 there is still possibility of hydraulic pressure
24 pushing in in most of these. So in your process
25 there is not pile ons?

1 MR. ENGEL: Anything that falls less
2 than 10 feet at the heighth.

3 AUDIENCE MEMBER: To what depth? Any
4 wall less than 10 feet.

5 MR. ENGEL: It's a high wall.

6 AUDIENCE MEMBER: So 100 year plus a
7 3-foot wall, that would not be a 10 foot wall so you
8 would use high wall, so there's still the
9 possibility of hydraulic pressure at that point.

10 MR. ENGEL: It would be against the
11 high wall, yes. Anything above 10 feet would have a
12 T-wall with a foundation with a total drain and
13 relief walls in there to relieve that total
14 pressure.

15 AUDIENCE MEMBER: My second question
16 is with any of those designs of flood mitigation,
17 any of them but the 2B which is do nothing to raise
18 Foster Road. When you put flood measures into
19 place, you're changing the way your flood insurance
20 works for the people that live inside of Idyllwild.
21 So if a flood happens, and there is not -- it
22 doesn't capsize or go over the flood wall, and there
23 is water that comes up, whether it be hydraulic from
24 rain, from any other source, from failure, from
25 pumps, from any other complications, are you letting

1 them be aware that their flood insurance will not
2 pay them because it is specifically stated inside of
3 what flood insurance is that's considered back up or
4 mechanical failure so the only way people in
5 Idyllwild, if they have a policy, have coverage is
6 that the levy has to break or be over top of it.
7 Has that been made known to anybody in Idyllwild?

8 MR. REICHART: If we decide to move
9 forward with any of these projects, the zone that
10 Idyllwild -- or the zone that will be behind the
11 flood mitigation alternative, we go from Zone A to
12 Zone X which is a different designation, and I'm not
13 familiar with the policies. I know there's a
14 difference in them.

15 AUDIENCE MEMBER: I'm very familiar,
16 and I have a policy. If there is a failure at any
17 point, whether it's drainage, rain water, I mean, it
18 could just fill up with rain water, 2.5 acres,
19 that's normally not floodable, and it's not join
20 property owners. It's questionable that they can
21 even have flood insurance because common
22 associations policy is considered within, you have
23 to have two owners fail in order for your flood
24 insurance to take effect.

25 So I think some of these criteria should

1 be given to condo owners so they're made aware
2 they're paying flood insurance they're paying
3 premiums on may not be developed. Thank you.

4 MS. BAKER: This will be our last
5 comment on the microphone. We do encourage you to
6 fill out the comment forms on the web or that we
7 handed you tonight. You can mail them in or you can
8 leave them with us. We have comment forms at the
9 back table and in the hallway. And staff will be
10 here for the rest -- for a little while following
11 the meeting to answer any additional questions you
12 might have with that.

13 AUDIENCE MEMBER: Real quick, I did
14 spend many, many years working for a property
15 casualty insurance company. Mark Phelps is right
16 about the insurance. He -- it's not going to cover
17 damage, and it may be hard to purchase insurance to
18 do so.

19 I did want to just make one slight
20 clarification, I recognize there are 92 families
21 that live in Idyllwild, but I would like to point
22 out there are not 92 owners who reside in Idyllwild.
23 Many of those condominiums were bought after the
24 flood at low prices, rehabbed, and are now being
25 rented out. Thank you.

1 MR. ENGEL: Thank you.

2 MS. BAKER: With that, we'll be
3 moving out into the atrium. So if you have any
4 questions, anybody with a name tag out there will be
5 able to help. We thank you for coming out tonight.
6 I'll let Jason wrap it up.

7 MR. REICHART: Thank you. Any
8 closing comments, again, if you have any other
9 questions or comments, or you'd like to speak to any
10 of the representatives, we'll be congregating out in
11 the atrium area. Thank you.

12 (8:02 p.m. - Adjournment.)

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1 CERTIFICATE OF REPORTER

2
3 I, Megan McDermott, Certified Shorthand
4 Reporter in and for the State of Iowa, hereby
5 certify that these proceedings are a true record of
6 said proceedings; that I am not related by
7 consanguinity or affinity within the fourth degree
8 to any party, his attorney, or an employee of any of
9 them; that I am not financially interested in the
10 action; and that I am not the attorney or employee
11 of any party.

12 To all of which I have affixed my
13 signature this 26th day of June, 2012.

14
15 _____
16 MEGAN McDERMOTT, CSR
17
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1438 (1)	4			
34:6				
16-foot (3)	4 (1)			
4:11;8:21;10:17				
1947 (1)				

**APPENDIX H: MEETING MATERIALS FROM
PUBLIC MEETINGS NO. 2 AND 3**

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Welcome!

The purpose of today's open house is to discuss the Taft Speedway Flood Mitigation Study and present information on the screened alternatives. Stations for each alternative have been created to allow the public to view information about the various screened alternatives and discuss the study with project representatives.

Screened Alternatives

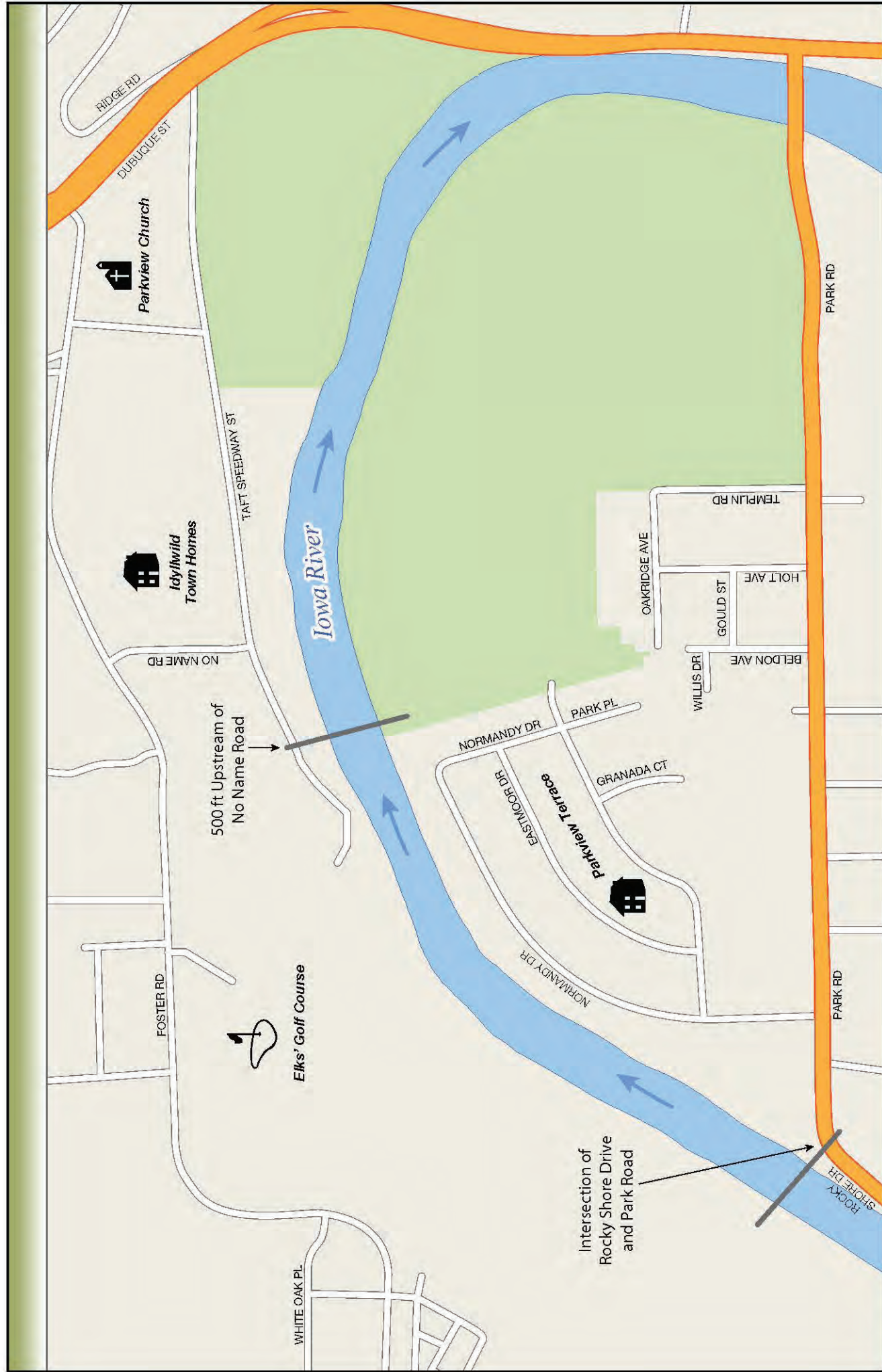
Following our initial public meeting in the fall of 2011, a list of preliminary flood mitigation alternatives was developed and a preliminary screening completed based on the alternative feasibility and ability to meet flood mitigation goals. From this preliminary screening, seven screened alternatives were evaluated.

- **Alternative 2B - Foster Road Raise (500-Year Plus 1 Foot):** Raise Foster Road to provide access to the Peninsula area in the event of high Iowa River elevations; no flood damage mitigation benefits.
- **Alternative 7 - Levee (100-Year Plus 3 Feet):** Earthen levee providing flood mitigation for Idyllwild Neighborhood and Parkview Church.
- **Alternative 8 - Flood Wall (500-Year Plus 3 Feet):** Floodwall providing flood mitigation for Idyllwild Neighborhood and Parkview Church; floodwall required for this level of protection because of extensive levee footprint at this design elevation.
- **Alternative 9A - Levee/Flood Wall (500-Year Plus 3 Feet):** Combination of levee with a floodwall along Taft Speedway where right-of-way is constrained. Provides access to the Peninsula neighborhood and flood mitigation for Idyllwild Neighborhood and Parkview Church.
- **Alternative 9B - Levee/Flood Wall (500-Year Plus 3 Feet with Taft Speedway Raise):** Provides same flood mitigation as Alternative 9A, with Taft Speedway raised within right-of-way to shorten required wall height.
- **Alternative 9C - Levee/Flood Wall (100-Year Plus 3 Feet):** Same as alternative 9A, constructed to the 100-year plus 3 feet level.
- **Alternative 9D - Levee/Flood Wall (100-Year Plus 3 Feet with Taft Speedway Raise):** Same as alternative 9B, constructed to the 100-year plus 3 feet level.

See the individual fact sheets attached for a summary of each screened alternative, with a figure illustrating the key elements of each alternative.

We Want Your Input!

- Stop and ask questions at the stations at today's public open house
- Visit us at www.icgov.org and click on Taft Speedway Flood Mitigation Study (under the "What's Happening" heading) to submit comments
- Attend the next public meeting, scheduled for June 6, 2012 from 6:00 pm – 8:00 pm. Formal presentation at 6:15 pm, followed by questions and answers.



Taft Speedway Flood Mitigation Study Area

Alternative 2B – Foster Road Raise (500-Year Plus 1 Foot)

Project Description

Raise Foster Road to provide access to the Peninsula area in the event of high Iowa River elevations; no flood damage mitigation benefits.

Level of Protection

500-year (0.2% annual exceedance) plus 1 ft of freeboard; approximate elevation 658.0 ft

Project Elements

- Raise 1,500 ft of Foster Road – maximum raise of approximately 8 ft above current grade
- Remove and replace 4,800 ft of 3 water mains along Foster Road
- Reconstruct 31-ft wide urban section of Foster Road on top of raised embankment
- Reconstruct intersections at No Name Road, Idyllwild Drive, and entrance to Parkview Church
- Reconstruct sidewalk on south side of Foster Road

Impacts

- Access roads to Idyllwild and Parkview Church – grades increased to no greater than 8%
- One acre easement required
- Obstructed views by elevated Foster Road embankment

Hydraulic Impacts

Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)
10	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

¹ Water surface elevation impacts based on comparisons to Iowa River hydraulic conditions with all constructed, under-construction, designed, or planned improvements (except Park Road and Dubuque Street improvements) in place.

² Water surface elevation impacts based on comparisons to Iowa River hydraulic conditions with all constructed, under-construction, designed, or planned improvements (including Park Road and Dubuque Street improvements) in place.

Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 7 - Levee (100-Year Plus 3 Feet)

Project Description

Earthen levee providing flood mitigation for Idyllwild Neighborhood and Parkview Church.

Level of Protection

100-year (1.0% annual exceedance) plus 3 ft of freeboard; approximate elevation 654.0 ft

Project Elements

- Construct 3,800 ft of levee – maximum height of approximately 8.5 ft above current grade of Taft Speedway
- Reconstruct rural section of No Name Road and Taft Speedway on top of raised embankment
- Remove and replace 1,300 ft of sanitary sewer along Taft Speedway
- Remove and replace 3,400 ft of water main under No Name Road and Taft Speedway
- Reconstruct 9 Taft Speedway access points, 3 Parkview Church access points, and one Idyllwild access point
- Construct stormwater pump station system

Impacts

- Access roads to Idyllwild, Parkview Church, and Taft Speedway residents – grades of 10-13%
- Two acres of easement required
- Obstructed views to the north for Taft Speedway residents; obstructed river views to south and east for Idyllwild residents

Hydraulic Impacts

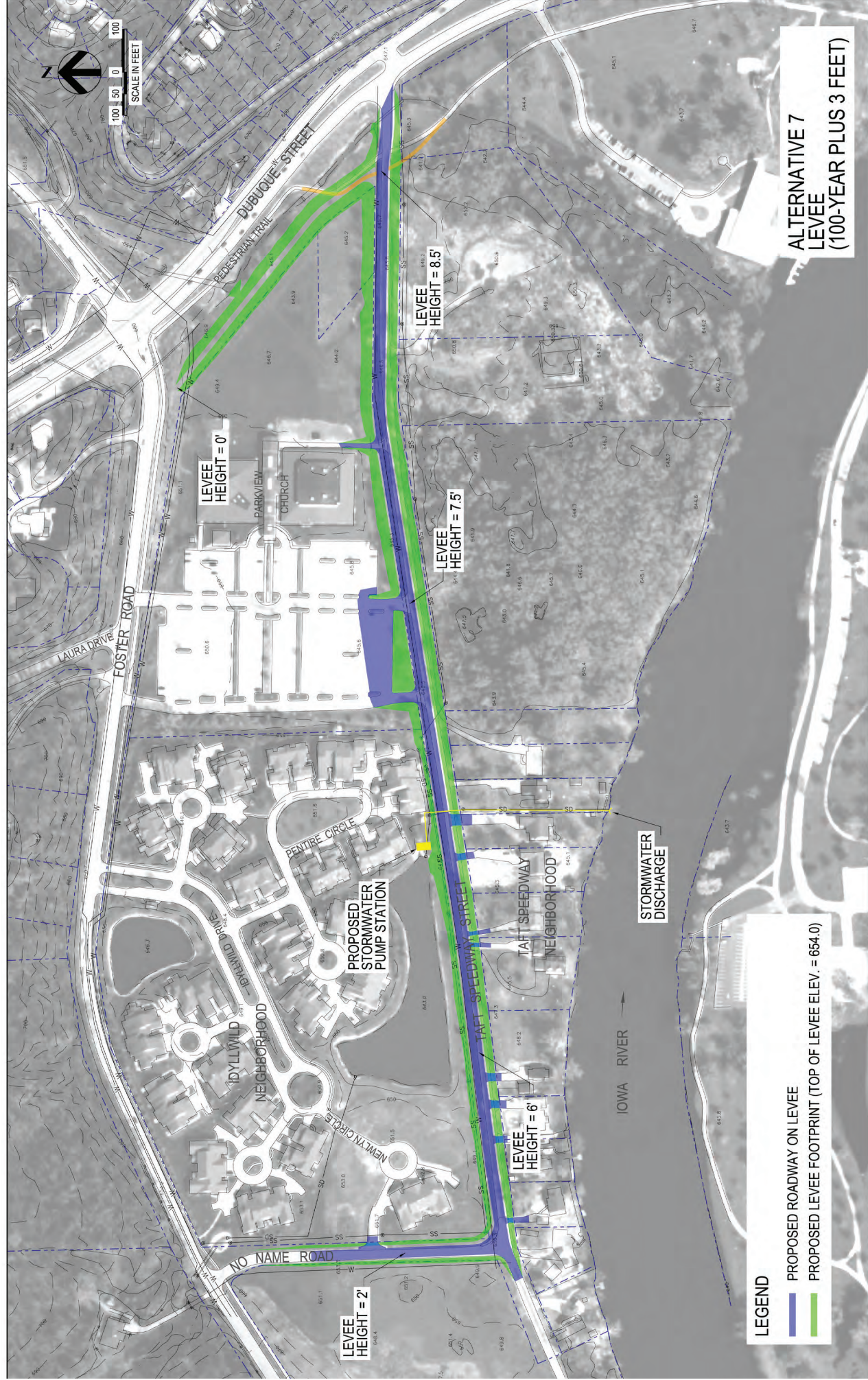
Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)
10	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

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Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 7 - Levee (100-Year Plus 3 Feet)



Alternative 8 - Flood Wall (500-Year Plus 3 Feet)

Project Description

Floodwall providing flood mitigation for Idyllwild Neighborhood and Parkview Church; floodwall required for this level of protection because of extensive levee footprint at this design elevation.

Level of Protection

500-year (0.2% annual exceedance) plus 3 ft of freeboard; approximate elevation 660.0 ft

Project Elements

- Construct 3,800 ft of concrete flood wall – height varies from 10 to 16 ft above current grade along Taft Speedway
- Remove and replace of 100 ft of sanitary sewer crossing flood wall and Taft Speedway
- Remove and replace of 80 ft of storm sewer crossing flood wall and Taft Speedway
- Remove and replace of 1,300 ft of sanitary sewer along Taft Speedway
- Remove and replace of 2,730 ft of water main under Taft Speedway
- Modify 3 Parkview Church access points and one Idyllwild access point for flood gates
- Construct stormwater pump station system

Impacts

- Modifications to access roads for Idyllwild and Parkview Church to include flood gates
- One acre of easement required
- Obstructed views to the north for Taft Speedway residents; obstructed river views to south and east for Idyllwild residents

Hydraulic Impacts

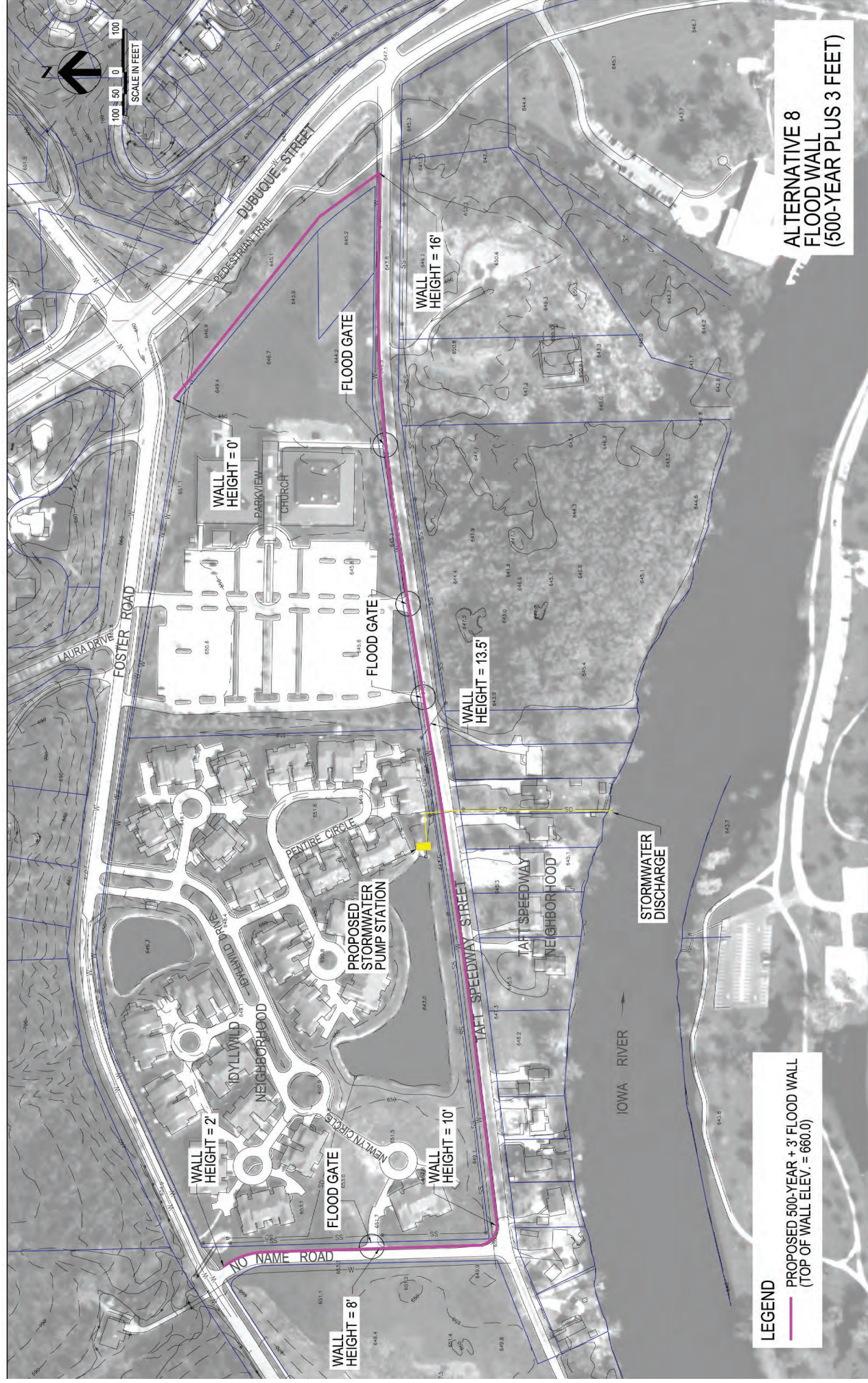
Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)
10	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

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Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 8 - Flood Wall (500-Year Plus 3 Feet)



Alternative 9A - Levee/Flood Wall (500-Year Plus 3 Feet)

Project Description

Combination of levee with a floodwall along Taft Speedway where right-of-way is constrained. Provides access to the Peninsula neighborhood and flood mitigation for Idyllwild Neighborhood and Parkview Church.

Level of Protection

500-year (0.2% annual exceedance) plus 3 ft of freeboard; approximate elevation 660.0 ft

Project Elements

- Construct 1,900 ft of levee – maximum height of approximately 16 ft above current grade of Taft Speedway
- Construct 2,300 ft of concrete flood wall – height varies from 10 to 14 ft along Taft Speedway
- Reconstruct rural section of No Name Road and Taft Speedway on top of raised embankment
- Remove and replace of 1,900 ft of sanitary sewer along No Name Road and Taft Speedway
- Remove and replace of 80 ft of storm sewer crossing flood wall and Taft Speedway
- Remove and replace of 3,400 ft of water main under No Name Road and Taft Speedway
- Reconstruct one Idyllwild access point
- Modify 3 Parkview Church access points for flood gates
- Construct stormwater pump station system

Impacts

- Modifications to access roads for Parkview Church to include flood gates; impact to east Idyllwild access
- One acre of easement required
- Obstructed views to the north for Taft Speedway residents, obstructed river views to south and east for Idyllwild residents

Hydraulic Impacts

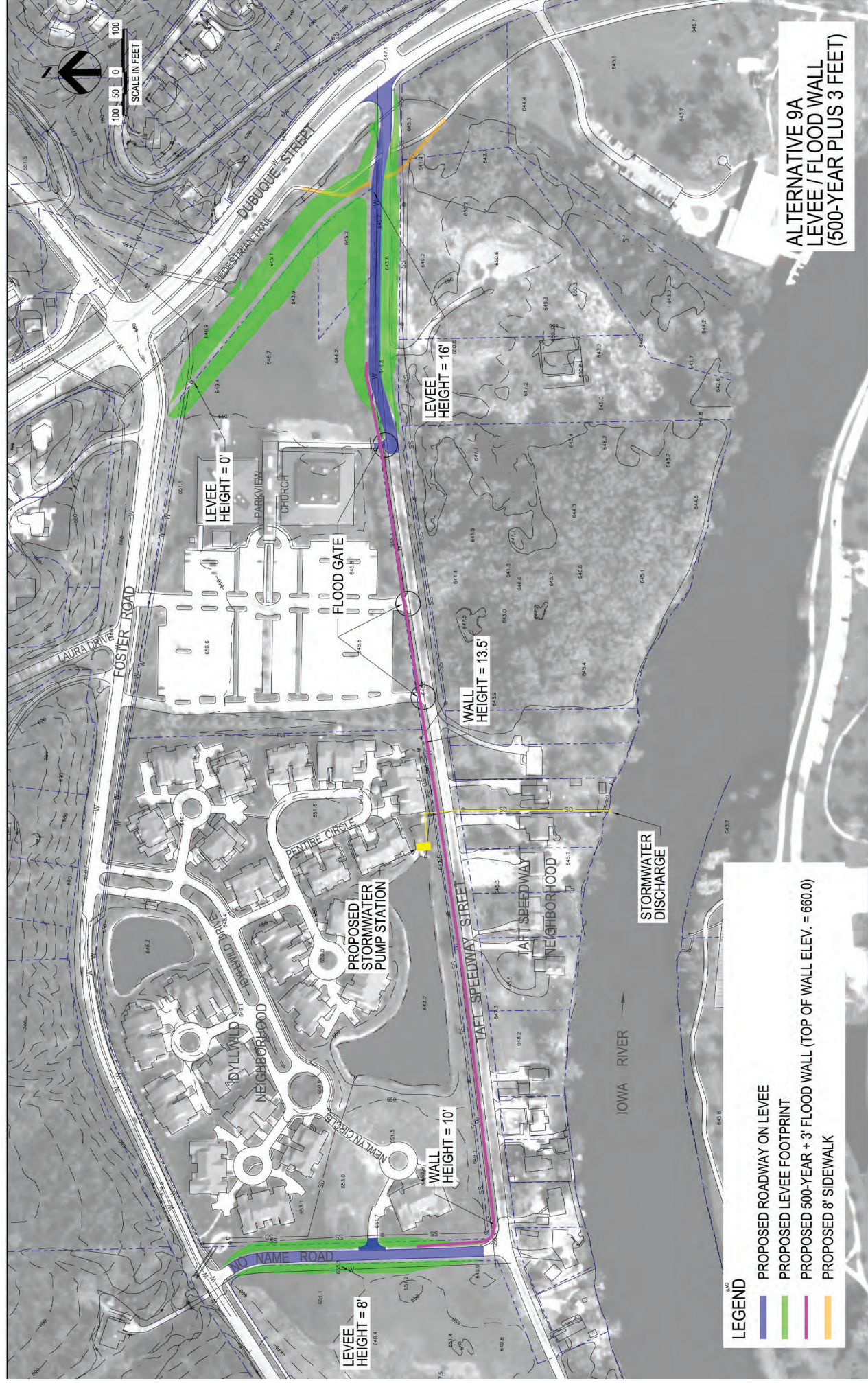
Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)
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50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

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Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 9A - Levee/Flood Wall (500-Year Plus 3 Feet)



Alternative 9B - Levee/Flood Wall (500-Year Plus 3 Feet with Taft Speedway Raise)

Project Description

Provides same flood mitigation as Alternative 9A, with Taft Speedway raised within right-of-way to shorten required wall height.

Level of Protection

500-year (0.2% annual exceedance) plus 3 ft of freeboard; approximate elevation 660.0 ft

Project Elements

- Construct 1,900 ft of levee – maximum height of approximately 16 ft above current grade of Taft Speedway
- Construct 2,300 ft of concrete flood wall – height varies from 7.5 to 11 ft above proposed grade of Taft Speedway
- Reconstruct rural section of No Name Road and Taft Speedway on top of raised embankment
- Raise western 2/3 of Taft Speedway profile 2 to 4 ft, and reconstruct roadway
- Replace 1,900 ft of sanitary sewer along No Name Road and crossing of Taft Speedway
- Remove and replace 80 ft of storm sewer crossing flood wall and Taft Speedway
- Remove and replace 3,400 ft of water main under No Name Road and Taft Speedway
- Construct stormwater pump station system

Impacts

- Access roads to Taft Speedway Residents – maximum grades of 5 to 7%
- Modifications to access roads for Parkview Church to include flood gates; impact to east Idyllwild access
- One acre of easement required
- Obstructed views to the north for Taft Speedway residents; obstructed river views to south and east for Idyllwild residents

Hydraulic Impacts

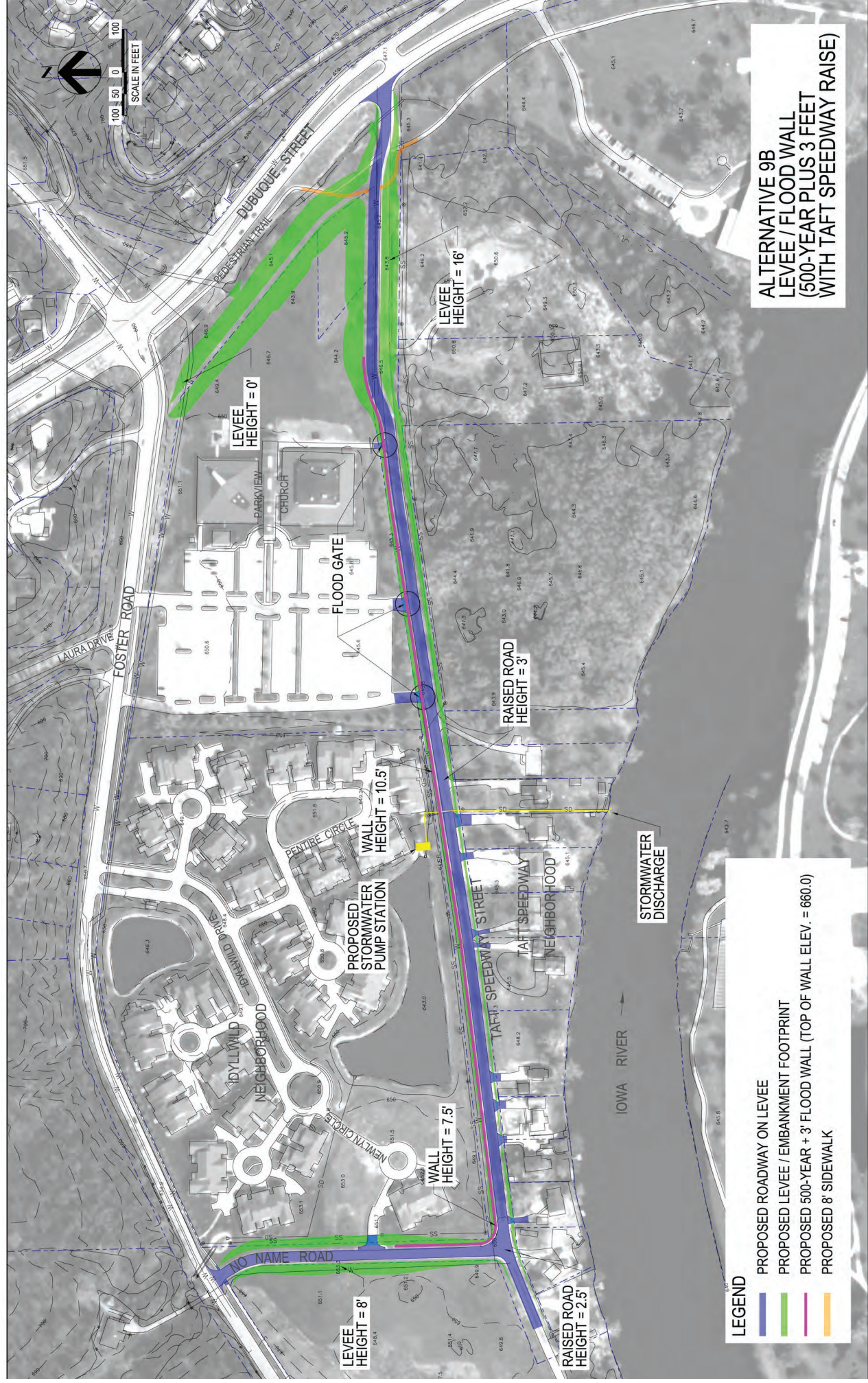
Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)
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50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

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Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 9B - Levee/Flood Wall (500-Year Plus 3 Feet with Taft Speedway Raise)



ALTERNATIVE 9B
LEVEE / FLOOD WALL
(500-YEAR PLUS 3 FEET
WITH TAFT SPEEDWAY RAISE)

Alternative 9C- Levee/Flood Wall (100-Year Plus 3 Feet)

Project Description

Same as alternative 9A, constructed to the 100-year plus 3 feet level.

Level of Protection

100-year (0.2% annual exceedance) plus 3 ft of freeboard; approximate elevation 654.0 ft

Project Elements

- Construct 1,900 ft of levee – maximum height of approximately 8.5 ft above current grade of Taft Speedway
- Construct 2,300 ft of concrete flood wall – height varies from 4 to 8 ft along Taft Speedway
- Reconstruct rural section of No Name Road and Taft Speedway on top of raised embankment
- Remove and replace 100 ft of sanitary sewer crossing flood wall and Taft Speedway
- Remove and replace 80 ft of storm sewer crossing flood wall and Taft Speedway
- Remove and replace 3,400 ft of water main under No Name Road and Taft Speedway
- Reconstruct one Idyllwild access point
- Modify 3 Parkview Church access points for flood gates
- Construct stormwater pump station system

Impacts

- Modifications to access roads for Parkview Church to include flood gates; impact to east Idyllwild access
- One acre of easement required
- Obstructed views to the north for Taft Speedway residents; obstructed river views to south and east for Idyllwild residents

Hydraulic Impacts

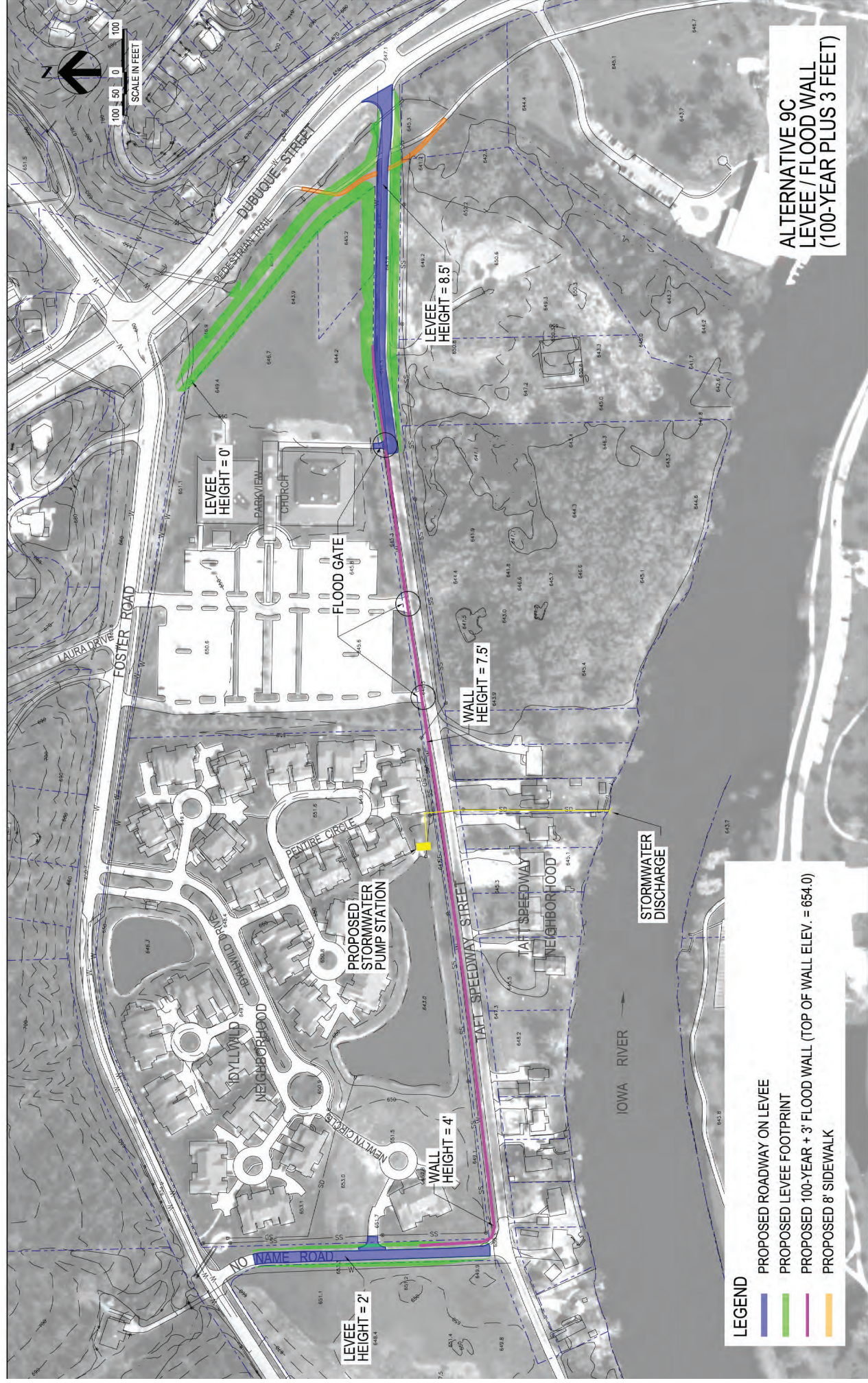
Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
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50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
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Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 9C- Levee/Flood Wall (100-Year Plus 3 Feet)



Alternative 9D- Levee/Flood Wall (100-Year Plus 3 Feet With Taft Speedway Raise)

Project Description

Same as alternative 9B, constructed to the 100-year plus 3 feet level.

Level of Protection

100-year (0.2% annual exceedance) plus 3 ft of freeboard; approximate elevation 654.0 ft

Project Elements

- Construct 1,900 ft of levee – maximum height of approximately 8.5 ft above current grade of Taft Speedway
- Construct 2,300 ft of concrete flood wall – height varies from 1.5 to 5 ft above proposed grade of Taft Speedway
- Reconstruct rural section of No Name Road and Taft Speedway on top of raised embankment
- Raise western 2/3 of Taft Speedway profile 2 to 4 ft, reconstruct roadway
- Replace 100 ft of sanitary sewer crossing of Taft Speedway
- Remove and replace 80 ft of storm sewer crossing flood wall and Taft Speedway
- Remove and replace 3,400 ft of water main under No Name Road and Taft Speedway
- Construct stormwater pump station system

Impacts

- Access roads to Taft Speedway Residents – maximum grades of 5-8%
- Modifications to access roads for Parkview Church to include flood gates; impact to east Idyllwild access
- One acre of easement required
- Obstructed views to the north for Taft Speedway residents; obstructed river views to south and east for Idyllwild residents

Hydraulic Impacts

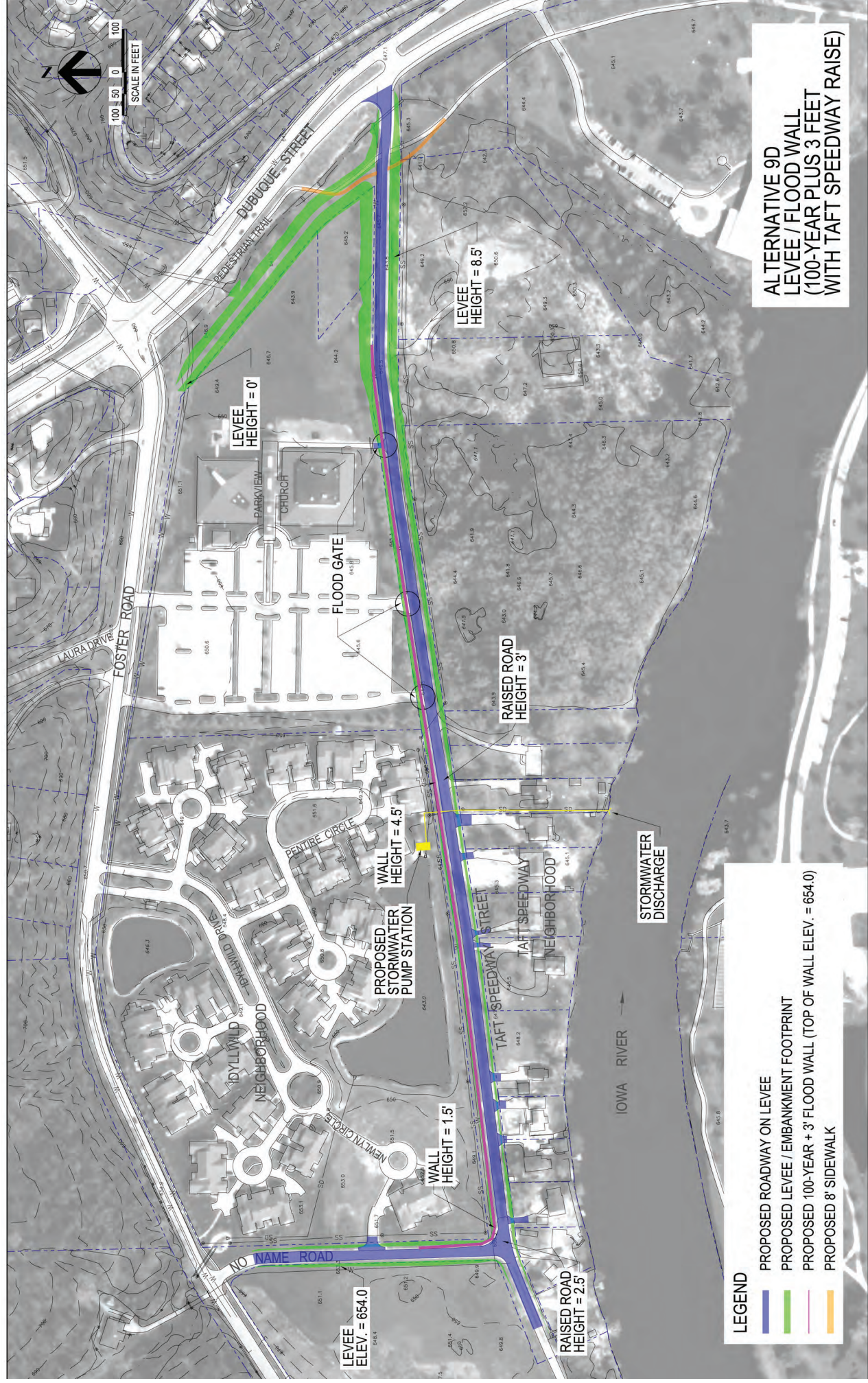
Flood Event (Year)	Intersection Rocky Shore Drive/Park Road		500 ft upstream of No Name Road	
	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)	Impacts of Alternative Alone ¹ (ft)	Impacts of Alternative With Park Road and Dubuque Street Improvements ² (ft)
10	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0
100	0.0	-0.3	0.0	-0.3
500	0.0	-0.4	0.0	-0.4

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² Water surface elevation impacts based on comparisons to Iowa River hydraulic conditions with all constructed, under-construction, designed, or planned improvements (including Park Road and Dubuque Street improvements) in place.

Note: Hydraulic modeling provided by Howard R. Green Company under contract to the City of Iowa City.

Alternative 9D - Levee/Flood Wall (100-Year Plus 3 Feet With Taft Speedway Raise)





Opinion of Probable Construction Cost Summary of Cost Development

As part of the Taft Speedway Flood Mitigation Study, opinions of probable construction cost were developed for the seven alternatives developed from the Initial Alternatives Screening. These seven alternatives include the following:

1. Alternative 2B: Raise Foster Road (500-Year + 1 Foot)
2. Alternative 7: Levee (100-Year + 3 Feet)
3. Alternative 8: Floodwall (500-Year + 3 Feet)
4. Alternative 9A: Levee/Floodwall Combination (500-Year + 3 Feet)
5. Alternative 9B: Levee/Floodwall Combination Plus Taft Speedway Raise (500-Year + 3 Feet)
6. Alternative 9C: Levee/Floodwall Combination (100-Year + 3 Feet)
7. Alternative 9D: Levee/Floodwall Combination Plus Taft Speedway Raise (100-Year + 3 Feet)

The opinion of probable construction cost was developed based upon the following information:

- The unit costs were estimated based upon recent construction bid tabulations from Iowa City, coordination with vendors, and coordination with Iowa City.
- A basemap of the improvements for each proposed alternative was created and used to estimate project quantities and impacts. The basemap utilized 2006 LiDAR data provided by Iowa City.
- The extent of the levee footprints, together with the parcel boundaries obtained from Iowa City, were utilized to estimate temporary and permanent easement requirements. Typical easement costs provided by the City were used in the cost opinions. These include a 10% assessed land value per year for temporary easements and 100% assessed land value for permanent easements.
- The location of existing utilities was estimated from information provided by Iowa City and through cursory field reconnaissance. No potholing or survey was conducted to confirm the horizontal or vertical locations. These locations, together with the proposed alternative basemaps, were utilized to estimate utility impacts in the form of depth of cover, anticipated construction-related impact to utility lines, and permanent feature impacts.
- Proposed improvements were developed in accordance with Iowa City design standards and general engineering industry standards.
- These costs are based upon a preliminary level of assessment. If design moves forward, additional details may affect final design cost. The 25% contingencies applied to each cost opinion accounts for the level of uncertainty at this level of design.
- Standard 8% of the improvement costs were utilized to estimate mobilization and engineering design fee.

Alternative 2B – Foster Road Raise (500-Year Plus 1 Foot)

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task:
Task No.

Date: 5-Jun-12
Estimator: TRM
Checked By:
Check Dates:



Alternate 2B: Foster Road to 500 Year + 1'


Description	Quantity	Unit Price	Total	Comments/Source	
		Unit (\$/unit)	(\$)		
Removals					
Pavement Removal	5,390	SY	\$ 5.00	\$ 26,950	1,485 LF Foster Road
Sidewalk Removal	640	SY	\$ 4.00	\$ 2,560	South side of Foster
Strip & Stockpile Topsoil	560	CY	\$ 2.00	\$ 1,120	4"
Remove Curb Inlets	20	EA	\$ 750	\$ 15,000	
Remove & Relocate/Replace Trees	30	EA	\$ 1,000	\$ 30,000	South side of Foster
Earthwork					
Earthwork (Embankment)	23,760	CY	\$ 6.50	\$ 154,440	30% compaction factor
Respread Topsoil	450	CY	\$ 2.00	\$ 900	
Pavement & Utility Construction					
Construct Curb Inlets	20	EA	\$ 2,500	\$ 50,000	
Construct 8" PCC Pavement (Foster Road)	5,190	SY	\$ 35.00	\$ 181,650	31' Urban Section, 1,485 LF
Construct 7" PCC Pavement (Parking Lot & Driveways)	670	SY	\$ 35.00	\$ 23,450	Idyllwild and Parkview Church entrance
Construct 6" PCC Sidewalk	1,190	SY	\$ 31.50	\$ 37,490	8' wide trail
Construct Culvert		LF		\$ -	
Raise Ex. Fire Hydrant	3	EA	\$ 8,000	\$ 24,000	2 @ No Name, 1 @ Idyllwild
Construct 8" Water Line	1,580	LF	\$ 109	\$ 172,220	along Foster Road, gate valves, fittings
Construct 16" Water Line	1,580	LF	\$ 283	\$ 447,140	along Foster Road, gate valves, fittings
Construct 30" Water Line	1,580	LF	\$ 372	\$ 587,760	along Foster Road, butterfly valves, fittings
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 35,000	\$ 35,000	7 Poles to be removed & relocated
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	1,340	LF	\$ 2.25	\$ 3,015	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	1	AC	\$ 4,500	\$ 4,650	
Remove & Replace Landscaping/Entrance Monuments	1	LS	\$ 10,000	\$ 10,000	
Easements (Temporary and Permanent)	43,560	SF	\$ 2.75	\$ 119,790	Idyllwild
Mobilization (8%)	1	LS	\$ 148,870	\$ 148,870	
Contingencies (25%)	1	LS	\$ 465,220	\$ 465,220	
Engineering (8%)	1	LS	\$ 148,870	\$ 148,870	
Total Construction Cost			\$ 2,743,595		

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Earthwork, Removals, & Miscellaneous	\$ 500,000
Pavement & Utilities Construction	\$ 1,600,000
Levee/Floodwall Construction	\$ -
Stormwater Pump Station	\$ -
Easements	\$ 200,000
Contingencies (25%)	\$ 500,000
Engineering (8%)	\$ 200,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 3,000,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Alternative 7 - Levee (100-Year Plus 3 Feet)


Opinion of Probable Construction Cost, Taft Speedway, Iowa City					
Client:	City of Iowa City	Date	5-Jun-12		
Project:	Taft Speedway Flood Study	Estimator	TRM		
Task		Checked By			
Task No.		Check Dates			
Alternate 7: 100-Year + 3' Levee					
Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	11,310	SY	\$ 5.00	\$ 56,550	No Name Rd. & Taft Speedway
Sidewalk Removal	350	SY	\$ 4.00	\$ 1,400	Dubuque St. trail
Remove Driveway Culvert	4	EA	\$ 250	\$ 1,000	
Strip & Stockpile Topsoil	2,690	CY	\$ 2.00	\$ 5,380	4"
Levee Footprint Overexcavation	28,000	CY	\$ 4.00	\$ 112,000	3' over footprint of fill
Remove Sanitary Sewer	1,260	LF	\$ 5.00	\$ 6,300	Taft Speedway crossing & lineal
Remove Sanitary Sewer Manhole	5	EA	\$ 500	\$ 2,500	
Remove Storm Sewer Manhole/Area Inlet	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	98,670	CY	\$ 6.50	\$ 641,355	30% compaction factor
Respread Topsoil	2,150	CY	\$ 2.00	\$ 4,300	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	relief well plus pump test
Toe Drain	2,440	LF	\$ 18.00	\$ 43,920	Toe drain for levee outside of relief well area
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,260	LF	\$ 60.00	\$ 75,600	Taft Speedway crossing & lineal
Construct Sanitary Sewer Manhole	5	EA	\$ 3,500	\$ 17,500	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500.00	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	8,600	SY	\$ 35.00	\$ 301,000	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	1,780	SY	\$ 35.00	\$ 62,300	5% slope on driveways
Construct 6" PCC Sidewalk	330	SY	\$ 31.50	\$ 10,400	8' wide trail
Construct Driveway Culvert (4)	160	LF	\$ 80.00	\$ 12,800	30" est.
Raise Ex. Fire Hydrant	5	EA	\$ 8,000	\$ 40,000	
Construct 12" Water Line	670	LF	\$ 197	\$ 131,990	Along No Name Road
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 12" Water Line	1,330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 125,000	\$ 125,000	22 (Taft) + 3 (No Name) Poles to be raised
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	7,090	LF	\$ 2.25	\$ 15,960	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	5	AC	\$ 4,500	\$ 22,500	
Easements (Temporary and Permanent)	63,160	SF	\$ 2.24	\$ 141,290	Idyllwild
Mobilization (8%)	1	LS	\$ 438,550	\$ 438,550	
Contingencies (25%)	1	LS	\$ 1,370,460	\$ 1,370,460	
Engineering (8%)	1	LS	\$ 438,550	\$ 438,550	
Total Construction Cost				\$ 7,870,665	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,600,000
Levee/Floodwall Construction	\$ 1,200,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 200,000
Contingencies (25%)	\$ 1,400,000
Engineering (8%)	\$ 500,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 8,100,000

* CDBG grant contribution from previously approved project application is \$8,011,800

Alternative 8 - Flood Wall (500-Year Plus 3 Feet)


Opinion of Probable Construction Cost, Taft Speedway, Iowa City					
Client:	City of Iowa City	Date	5-Jun-12		
Project:	Taft Speedway Flood Study	Estimator	TRM		
Task		Checked By			
Task No.		Check Dates			
Alternate 8: 500-Year + 3' Floodwall					
Description	Quantity	Unit	Unit Price (\$/unit)	Total (\$)	Comments/Source
Removals					
Pavement Removal	190	SY	\$ 5.00	\$ 950	Floodwall crossing of driveways
Sidewalk Removal		SY		\$ -	
Remove Driveway Culvert		EA		\$ -	East church entrance, leave in place
Strip & Stockpile Topsoil		CY		\$ -	4"
Remove Sanitary Sewer	80	LF	\$ 5.00	\$ 400	Taft Speedway crossing
Remove Sanitary Sewer Manhole	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Floodwall					
Floodwall	1	LS	\$ 5,721,030	\$ 5,721,030	per Floodwall Cost Est.
Flood Gates	4	EA	\$ 225,000	\$ 900,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,260	LF	\$ 60.00	\$ 75,600	Taft Speedway crossing
Construct Sanitary Sewer Manhole	2	EA	\$ 3,500	\$ 7,000	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	60	SY	\$ 35.00	\$ 2,100	
Construct 7" PCC Pavement (Parking Lot & Driveways)	190	SY	\$ 50.00	\$ 9,500	@ Floodgates
Construct 6" PCC Sidewalk		SY		\$ -	8' wide trail
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 12" Water Line	1,330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	4,000	LF	\$ 2.25	\$ 9,000	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	1	AC	\$ 4,500	\$ 4,500	
Easements (Temporary and Permanent)	19,600	SF	\$ 2.75	\$ 53,900	Idyllwild
Mobilization (8%)	1	LS	\$ 799,910	\$ 799,910	
Contingencies (25%)	1	LS	\$ 2,499,700	\$ 2,499,700	
Engineering (8%)	1	LS	\$ 799,910	\$ 799,910	
Total Construction Cost				\$ 14,152,220	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,000,000
Levee/Floodwall Construction	\$ 6,700,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,500,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 14,300,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Alternative 9A - Levee/Flood Wall (500-Year Plus 3 Feet)

Opinion of Probable Construction Cost, Taft Speedway, Iowa City					
Client: City of Iowa City	Date: 5-Jun-12	 HDR Engineering, Inc.			
Project: Taft Speedway Flood Study	Estimator: TRM				
Task:	Checked By:				
Task No.	Check Dates:				
Alternate 9A: 500-Year + 3' Combination Levee / Flood Wall					
Description	Quantity	Unit	Unit Price (\$/unit)	Total (\$)	Comments/Source
Removals					
Pavement Removal	4,200	SY	\$ 5.00	\$ 21,000	No Name Rd. & Taft Speedway
Sidewalk Removal	260	SY	\$ 4.00	\$ 1,040	Dubuque St. trail
Remove Driveway Culvert	2	EA	\$ 225	\$ 450	
Strip & Stockpile Topsoil	2,050	CY	\$ 2.00	\$ 4,100	4"
Levee Footprint Overexcavation	19,950	CY	\$ 4.00	\$ 79,800	3' over footprint of fill
Remove Sanitary Sewer	80	LF	\$ 5.00	\$ 400	Taft Speedway crossing
Remove Sanitary Sewer Manhole	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer Manhole/Area Inlet	1	EA	\$ 500	\$ 500	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	86,910	CY	\$ 6.50	\$ 564,920	30% compaction factor
Respread Topsoil	1,640	CY	\$ 2.00	\$ 3,280	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	Relief wells plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 3,335,890	\$ 3,335,890	per Floodwall Cost Est.
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,900	LF	\$ 60.00	\$ 114,000	Taft Speedway and No Name crossing
Construct Sanitary Sewer Manhole	2	EA	\$ 3,500	\$ 7,000	
Construct Storm Sewer Manhole/Area Inlet	1	EA	\$ 2,750	\$ 2,750	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	4,260	SY	\$ 35.00	\$ 149,100	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	290	SY	\$ 50.00	\$ 14,500	Driveways plus Floodgate crossings
Construct 6" PCC Sidewalk	280	SY	\$ 31.50	\$ 8,820	8' wide trail
Construct Driveway Culvert	80	LF	\$ 80.00	\$ 4,800	30" est.
Extend Culverts	25	LF	\$ 150	\$ 3,750	Taft & Dubuque Streets
Construct 12" Water Line	670	LF	\$ 197	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 12" Water Line	1330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 55,000	\$ 55,000	8 (Taft) + 3 (No Name) Poles to be raised
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	12,110	LF	\$ 2.25	\$ 27,250	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	4	AC	\$ 4,500	\$ 18,000	
Easements (Temporary and Permanent)	39,210	SF	\$ 2.75	\$ 107,830	Idylwild
Mobilization (8%)	1	LS	\$ 721,570	\$ 721,570	
Contingencies (25%)	1	LS	\$ 2,254,910	\$ 2,254,910	
Engineering (8%)	1	LS	\$ 721,570	\$ 721,570	
Total Construction Cost				\$ 12,826,500	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,000,000
Pavement & Utilities Construction	\$ 1,400,000
Levee/Floodwall Construction	\$ 5,100,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 200,000
Contingencies (25%)	\$ 2,300,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 13,100,000

* CDBG grant contribution from previously approved project application is \$8,011,800

Alternative 9B - Levee/Flood Wall (500-Year Plus 3 Feet with Taft Speedway Raise)


Opinion of Probable Construction Cost, Taft Speedway, Iowa City					
Client:	City of Iowa City	Date	5-Jun-12		 HDR Engineering, Inc.
Project:	Taft Speedway Flood Study	Estimator	TRM		
Task		Checked By			
Task No.		Check Dates			
Alternate 9B: 500-Year + 3' Combination Levee / Flood Wall w/ Raised Road					
Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	10,270	SY	\$ 5.00	\$ 51,350	
Sidewalk Removal	250	SY	\$ 4.00	\$ 1,000	
Remove Driveway/Culvert	4	EA	\$ 225	\$ 900	
Strip & Stockpile Topsoil	2,700	CY	\$ 2.00	\$ 5,400	4"
Levee Footprint Overexcavation	34,090	CY	\$ 4.00	\$ 136,360	3' over footprint of fill
Remove Sanitary Sewer	470	LF	\$ 5.00	\$ 2,350	Taft Speedway crossing & along No Name Rd
Remove Sanitary Sewer Manhole	4	EA	\$ 500	\$ 2,000	
Remove Storm Sewer Manhole/Area Inlet	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	116,337	CY	\$ 6.50	\$ 756,200	30% compaction factor
Respread Topsoil	2,160	CY	\$ 2.00	\$ 4,320	
Relief Walls	16	EA	\$ 30,000	\$ 480,000	Relief walls plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief wall area
Floodwall					
Floodwall	1	LS	\$ 2,930,580	\$ 2,930,580	per Floodwall Cost Est.
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,900	LF	\$ 60.00	\$ 114,000	Taft Speedway crossing & along No Name Rd
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 14,000	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway & No Name Rd)	9,860	SY	\$ 35.00	\$ 345,100	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	900	SY	\$ 50.00	\$ 45,000	
Construct 6" PCC Sidewalk	280	SY	\$ 31.50	\$ 8,820	8' wide trail
Construct Driveway Culvert	120	LF	\$ 80.00	\$ 9,600	30' east
Extend Culverts	25	LF	\$ 150	\$ 3,750	Taft & Dubuque Streets
Construct 12" Water Line	670	LF	\$ 197	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 12" Water Line	1,330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 85,000	\$ 85,000	13 (Taft) + 4 (No Name) Poles to be raised
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	8,240	LF	\$ 2.25	\$ 18,540	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	5	AC	\$ 4,500	\$ 22,500	
Easements (Temporary and Permanent)	39,210	SF	\$ 1.92	\$ 75,430	Idyllwild
Mobilization (8%)	1	LS	\$ 733,260	\$ 733,260	
Contingencies (25%)	1	LS	\$ 2,291,420	\$ 2,291,420	
Engineering (8%)	1	LS	\$ 733,260	\$ 733,260	
Total Construction Cost				\$ 12,999,020	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,200,000
Pavement & Utilities Construction	\$ 1,700,000
Levee/Floodwall Construction	\$ 4,900,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,300,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 13,300,000

*CDBG grant contribution from previously approved project application is \$8,011,800


Alternative 9C- Levee/Flood Wall (100-Year Plus 3 Feet)

Opinion of Probable Construction Cost, Taft Speedway, Iowa City					
Client:	City of Iowa City	Date	5-Jun-12		
Project:	Taft Speedway Flood Study	Estimator	TRM		
Task		Checked By			
Task No.		Check Dates			
Alternate 9C: 100-Year + 3' Combination Levee / Flood Wall					
Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	3,640	SY	\$ 5.00	\$ 18,200	
Sidewalk Removal	350	SY	\$ 4.00	\$ 1,400	
Remove Driveway Culvert	2	EA	\$ 225	\$ 450	
Strip & Stockpile Topsoil	1,210	CY	\$ 2.00	\$ 2,420	4"
Levee Footprint Overexcavation	14,500	CY	\$ 4.00	\$ 58,000	3' over footprint of fill
Remove Sanitary Sewer	80	LF	\$ 5.00	\$ 400	Taft Speedway crossing
Remove Sanitary Sewer Manhole	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer Manhole/Area Inlet	1	EA	\$ 500	\$ 500	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	25,950	CY	\$ 6.50	\$ 168,680	30% compaction factor
Respread Topsoil	970	CY	\$ 2.00	\$ 1,940	
Relief Walls	16	EA	\$ 30,000	\$ 480,000	Relief walls plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 2,700,920	\$ 2,700,920	per Floodwall Cost Opinion
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	100	LF	\$ 60.00	\$ 6,000	Taft Speedway crossing
Construct Sanitary Sewer Manhole	2	EA	\$ 3,500	\$ 7,000	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	30	LF	\$ 90.00	\$ 2,700	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	3,750	SY	\$ 35.00	\$ 131,250	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	180	SY	\$ 50.00	\$ 9,000	
Construct 6" PCC Sidewalk	330	SY	\$ 31.50	\$ 10,400	8' wide trail
Construct Driveway Culvert	40	LF	\$ 80.00	\$ 3,200	30' est.
Construct 12" Water Line	670	LF	\$ 197.00	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190.00	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 12" Water Line	1,330	LF	\$ 190.00	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 85,000	\$ 85,000	13 (Taft) + 4 (No Name) Poles to be raised?
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	12,000	LF	\$ 2.25	\$ 27,000	
Dewatering		LS	\$ 50,000	\$ -	
Seeding	2	AC	\$ 4,500	\$ 10,110	
Easements (Temporary and Permanent)	19,600	SF	\$ 2.75	\$ 53,900	Idylwild
Mobilization (8%)	1	LS	\$ 623,700	\$ 623,700	
Contingencies (25%)	1	LS	\$ 1,949,040	\$ 1,949,040	
Engineering (8%)	1	LS	\$ 623,700	\$ 623,700	
Total Construction Cost				\$ 11,046,480	

Opinion of Probable Construction Cost Summary	
Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,300,000
Levee/Floodwall Construction	\$ 4,100,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,000,000
Engineering (8%)	\$ 700,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 11,400,000

* CDBG grant contribution from previously approved project application is \$8,011,800

Alternative 9D- Levee/Flood Wall (100-Year Plus 3 Feet With Taft Speedway Raise)

Opinion of Probable Construction Cost, Taft Speedway, Iowa City					
Client:	City of Iowa City	Date	5-Jun-12		
Project:	Taft Speedway Flood Study	Estimator	TRM		
Task		Checked By			
Task No.		Check Dates			
Alternate 9D: 100-Year + 3' Combination Levee / Flood Wall w/ Raised Road					
Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	\$/unit		
Removals					
Pavement Removal	10,630	SY	\$ 5.00	\$ 53,150	Taft Speedway, No Name Road
Sidewalk Removal	350	SY	\$ 4.00	\$ 1,400	Foster, Dubuque
Remove Driveway Culvert	4	EA	\$ 225	\$ 900	
Strip & Stockpile Topsoil	2,500	CY	\$ 2.00	\$ 5,000	4"
Levee Footprint Overexcavation	3,120	CY	\$ 4.00	\$ 12,480	3' over footprint of fill
Remove Sanitary Sewer	100	LF	\$ 5.00	\$ 500	Taft Speedway crossing
Remove Sanitary Sewer Manhole	4	EA	\$ 500	\$ 2,000	
Remove Storm Sewer Manhole/Area Inlet	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	38,250	CY	\$ 6.50	\$ 248,625	30% compaction factor
Respread Topsoil	2,000	CY	\$ 2.00	\$ 4,000	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	Relief wells plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 2,574,260	\$ 2,574,260	per Floodwall Cost Est.
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	100	LF	\$ 60.00	\$ 6,000	Taft Speedway crossing
Construct Sanitary Sewer Manhole	5	EA	\$ 3,500	\$ 17,500	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	9,380	SY	\$ 35.00	\$ 328,300	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	670	SY	\$ 35.00	\$ 23,450	
Construct 6" PCC Sidewalk	330	SY	\$ 31.50	\$ 10,400	8' wide trail
Construct Driveway Culvert	120	LF	\$ 80.00	\$ 9,600	30" est.
Construct 12" Water Line	670	LF	\$ 197.00	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190.00	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 12" Water Line	1,330	LF	\$ 190.00	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 85,000	\$ 85,000	13 (Taft) + 4 (No Name) Poles to be raised?
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	8,240	LF	\$ 2.25	\$ 18,540	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	4	AC	\$ 4,500	\$ 18,000	
Easements (Temporary and Permanent)	39,210	SF	\$ 1.92	\$ 75,430	Idylwild
Mobilization (8%)	1	LS	\$ 642,230	\$ 642,230	
Contingencies (25%)	1	LS	\$ 2,006,870	\$ 2,006,870	
Engineering (8%)	1	LS	\$ 642,230	\$ 642,230	
Total Construction Cost				\$ 11,394,735	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,000,000
Pavement & Utilities Construction	\$ 1,500,000
Levee/Floodwall Construction	\$ 4,000,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,100,000
Engineering (8%)	\$ 700,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 11,700,000

*CDBG grant contribution from previously approved project application is \$8,011,800



Taft Speedway

Flood Mitigation Study

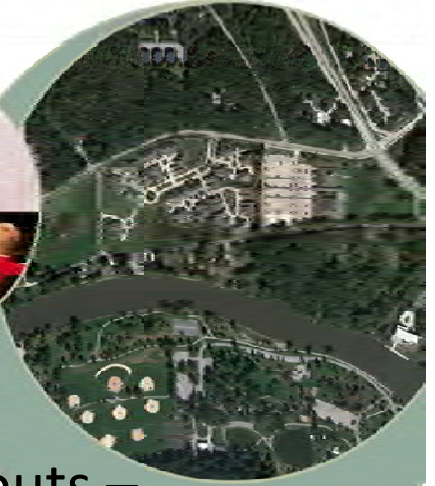
June 6, 2012

HDR





Meeting Guidelines



- Please make sure you have all handouts – Matrix, Alternatives, Cost, Comment Form(s)
- Comments and Questions will be taken after the end of the presentation
- You will have 2 minutes to speak, as to ensure that everyone gets the opportunity to be heard
- Please allow everyone to comment once before commenting a second time
- Be kind and courteous to all



HDR



Welcome

The purpose of this meeting is to:

- Discuss the Taft Speedway Flood Mitigation Study to date
- Inform you on analyses conducted since the August 25, 2011 meeting
- Gather your input and comments

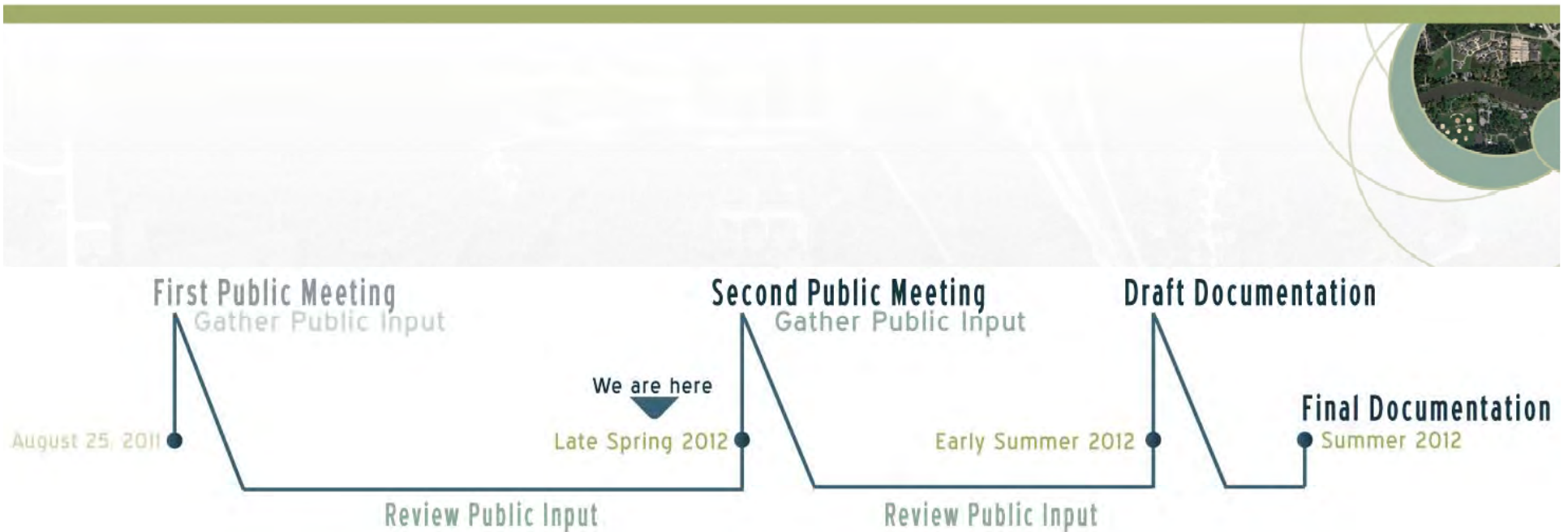
Taft Speedway Flood Mitigation Study

- *Focus:* Determine impacts – positive and negative – of flood mitigation alternatives
- *Method:* Collect public input, develop and analyze alternatives, summarize impacts
- *Result:* More detailed information for the City Council to make decision; compliance with CDBG grant requirements

Since we met last fall.....

- *Initial Alternatives Screening*
- *Environmental Analysis*
- *Geotechnical Analysis*
- *Hydraulic Analysis*
- *Screened Alternative Evaluation*

Revised Schedule



**Schedule delay to accommodate Geotechnical Analysis conducted as a result of public comment.*

Initial Alternatives Screening

Taft Speedway Flood Mitigation Study – Preliminary Screening

Alternative	Alternative Description	100-yr Protection				2008 Flood Event Protection				500-yr Protection				Feasible for HUD Funding	Technical/Political Feasibility	Preliminary Screening Results
		Foster Rd	IaYhild	TaT Residents	PerView Church	Foster Rd	IaYhild	TaT Residents	PerView Church	Foster Rd	IaYhild	TaT Residents	PerView Church			
1. Do-Nothing (temporary flood protection employed as needed)	No permanent infrastructure improvements; temporary measures for access and property protection would be employed	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	Response time adequate for assembly and placement of measures may be an issue. The Emergency Response Plan, prepared by MMS Consultants Inc., determined that protection for events larger than the 100 yr event is clearly not feasible with temporary measures.	Alternative does not achieve the project objectives, but will be carried forward as the "do-nothing" alternative for comparison purposes.
2. Raise Foster Road	Foster Road profile would be raised to above 500-yr WSEL (approximately elevation 657.0) to maintain access to the Peninsula area.	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	N	Road grade raise at Foster Road is technically feasible. Significant utility improvements/modifications would also be required in conjunction with grade raise.	Alternative does not achieve the project objectives, but will be carried forward to evaluate incremental costs of providing access to Peninsula area vs. providing access and flood mitigation.
3. CDBG / HMGP Buyouts	Purchase of structures and property potentially impacted by 500-yr event.	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	Buyout of impacted properties is technically feasible, although condominium association and ownership structure may complicate buyout process.	Alternative not carried forward – Does not achieve project objectives. All funding currently available for buyouts has been committed at this time.
4. Removal/Modification of Burlington Street Dam	Removal or modification to Burlington Street Dam to improve conveyance of Iowa River flood flows and lower peak river stages in the Taft Speedway area	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	Use of bascule gates, or similar gated configuration could be used to increase discharge during flood events, yet provide elevated water surfaces to serve University of Iowa's water plant intake during low flows. Legal/political issues include utilities within existing dam, dam ownership and coordination with University of Iowa.	Alternative not carried forward – Does not achieve project objectives. Preliminary modeling results show little or no impact (less than 1 ft) to water surface elevations near project area with removal of Burlington Street Dam.
5. Iowa River Conveyance Improvements (channel/bridge improvements)	Increase conveyance of Iowa River by clearing/excavating channel improvements and/or removing bridge obstructions to lower peak river stages in the Taft Speedway area during flood events	Y	Y	Y	Y	P	P	P	P	P	P	P	P	N	Conveyance improvements are technically feasible; however significant issues to be addressed potentially include environmental impacts, land acquisition, and transportation system impacts. Cost / Benefit ratio likely to be very poor.	Alternative not carried forward – extent of property acquisition, infrastructure improvements, and environmental and utility impacts far outweigh the benefits.
6. Coralville Reservoir Modification	Increase flood storage through dredging, physical modifications, or changes to operating rules to provide adequate storage for the 500-yr event.	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	USACE Division Commander has authority to modify water control plans/physical modifications to Coralville reservoir. Level of impacts to the Coralville project, authorized purposes, people, and environment would likely require lengthy environmental impact statement process. Alternative would also require an extensive amount of easements or property acquisition. Raising Coralville Dam to provide additional flood storage is likely not feasible.	Alternative not carried forward – Does not meet project objectives. The IIHR analyzed this alternative in 2009. The IIHR study determined that dredging the Coralville Reservoir would provide limited additional flood protection against major floods similar to 2008. A more aggressive operations plan would increase available storage should a large event occur; however, the benefits are not substantial and would cause frequent low level flooding for downstream communities.

Iowa City Taft Speedway Flood Mitigation Study

1

November 2011

Ten initial alternatives were evaluated

Initial Alternatives Screening

7. Levee	Construct earthen levee and necessary appurtenances to provide protection for Idyllwild area. Likely alignment ties into Foster Road at both ends and runs along existing No Name Road and Taft Speedway on the west and south sides; parallels Dubuque St on the east side. Required elevation for 500-yr WSEL with freeboard is approximately elevation 660.0 ft.	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Earthen levee is likely to be technically feasible. Interior drainage, underseepage, and space constraints for levee footprint are issues that must be addressed for alternative to serve function.	Alternative carried forward.
8. Floodwall	Construct floodwall (temporary or permanent) and necessary appurtenances to provide protection for Idyllwild area. Likely alignment ties into Foster Road at both ends and runs along existing No Name Road and Taft Speedway on the west and south sides; parallels Dubuque St on the east side. Required elevation for 500-yr WSEL with freeboard is approximately elevation 660.0 ft.	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	P	Floodwall is likely to be technically feasible. Interior drainage and underseepage are issues that must be addressed for alternative to serve function. Structures must be permanent to the 100-yr level plus 3 feet of freeboard to be eligible for HUD funding. Even if eligibility requirements are met, CDBG funds cannot be utilized for any structure or part of a structure that would be temporary.	Alternative carried forward.
9. Levee/Floodwall Combination	Combination of Alternatives 8 and 9 using floodwalls where suitable, i.e. constrained ROW.	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	P	Earthen levee/floodwall is likely to be technically feasible. Similar to levee along alternative, interior drainage, underseepage, and space constraints are issues that must be addressed for alternative to serve function. Structures must be permanent to the 100-yr level plus 3 feet of freeboard to be eligible for HUD funding. Even if eligibility requirements are met, CDBG funds cannot be utilized for any structure or part of a structure that would be temporary.	Alternative carried forward.
10. Flood-proofing of Structures, including Structure Raises	Structural improvements to buildings to dry-proof; site grading/improvements to facilitate flood fighting closures. Structures would be raised to above 500-yr WSEL (approximately elevation 657.0) - typically 4-8 ft elevation raise required.	Y	Y	Y	Y	N	N	Y	N	N	N	Y	N	N	Flood-proofing all structures to the 2008 or 500-yr event is likely not technically feasible, particularly for the extended duration of flooding due to the regulation of flows by Coralville Reservoir. Raising of residential and/or condominium structures may be technically feasible. Raising of Parkview Church is likely not feasible. Even though flood-proofing measures may prevent property damage, evacuation will be required due to utility and access impacts.	Alternative not carried forward – alternative unlikely to provide protection for events larger than the 100-yr event for all structures.

Key: Y = Yes, alternative provides respective level of flood protection
 N = No, alternative does not provide respective level of flood protection
 P = Alternative possibly provides respective level of flood protection; more detailed analysis required.

Five were screened for additional study

Environmental

- Potential for 4 Threatened and Endangered Species in Project Area
- Low probability of Impacts to Cultural or Archaeological Resources
- Palustrine emergent and forested wetlands and freshwater pond wetlands in project vicinity; field delineations will be required during final design
- Anticipated an Environmental Assessment Will be Required

Geotechnical

Soil Conditions:

- Soils Consist of Mixture of Sand and Clay
- Bedrock between 20 to 40 Feet Below Ground Surface; dipping towards river

Groundwater Conditions:

- Approx. Between 9 to 15 Feet Below Ground Surface
- WSEL Fluctuations May Occur Due to Seasonal Variations

Underseepage Protection

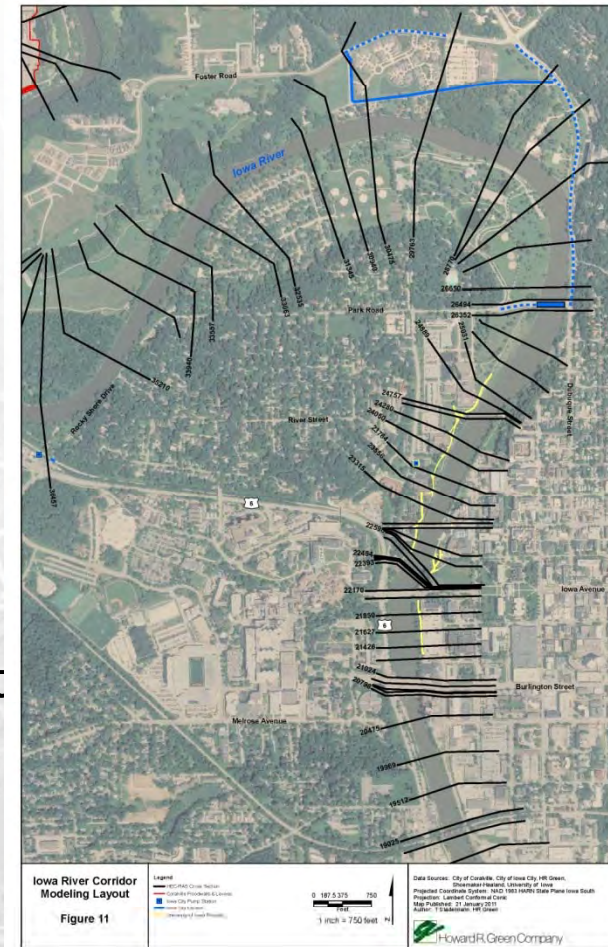
- Several alternatives available to address



Soil Boring Locations

Hydraulics

- Hydraulic evaluation of alternatives conducted by HR Green under contract to Iowa City
- Base Condition for comparing impacts:
 - Includes planned projects of Coralville, University, and Iowa City **except** Taft Speedway Project and Dubuque/Park Road Bridge Project



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Flood Mitigation Alternative Analysis

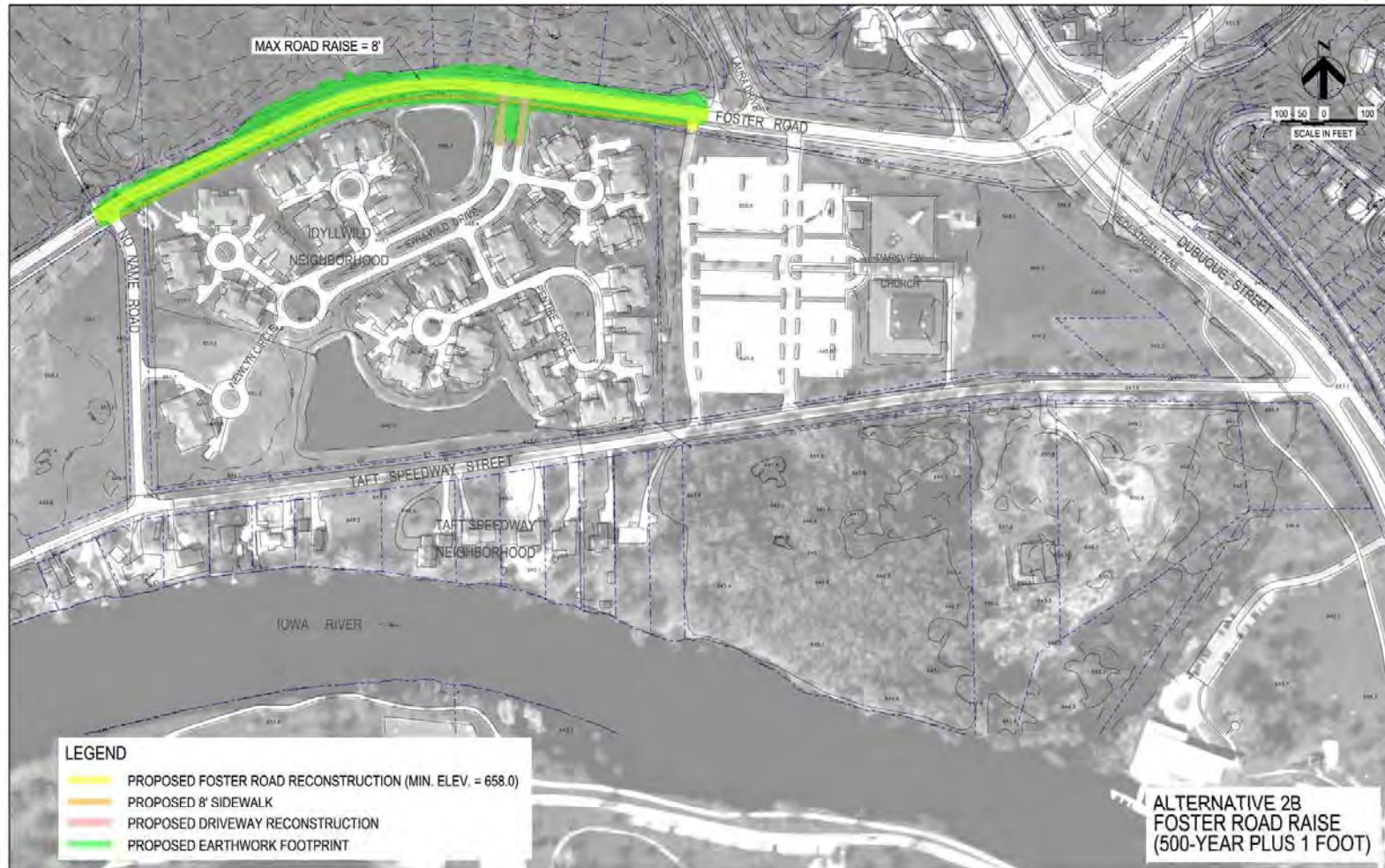
Flood mitigation alternatives from initial screening:

- **Do-Nothing Alternative**
- **Alternative 2B – Foster Road Raise (500-Year Plus 1 Foot):** Provides access to Peninsula area in the event of high Iowa River elevations; no flood damage mitigation benefits.
- **Alternative 7 - Levee (100-Year Plus 3 Feet):** Earthen levee providing flood mitigation for Idyllwild Neighborhood and Parkview Church.
- **Alternative 8 - Flood Wall (500-Year Plus 3 Feet):** Floodwall providing flood mitigation for Idyllwild Neighborhood and Parkview Church; floodwall required for this level of protection because of extensive levee footprint at this design elevation.
- **Alternative 9A - Levee/Flood Wall (500-Year Plus 3 Feet):** Combination of levee with a floodwall along Taft Speedway where ROW is constrained.
- **Alternative 9B- Levee/Flood Wall (500-Year Plus 3 Feet with Taft Speedway Raise):** Similar to Alternative 9A, with Taft Speedway raised within ROW to shorten required wall height.
- **Alternative 9C- Levee/Flood Wall (100-Year Plus 3 Feet):** Same as alternative 9A, but 100-year level of protection.
- **Alternative 9D- Levee/Flood Wall (100-Year Plus 3 Feet with Taft Speedway Raise):** Same as alternative 9B, but 100-year level of protection.

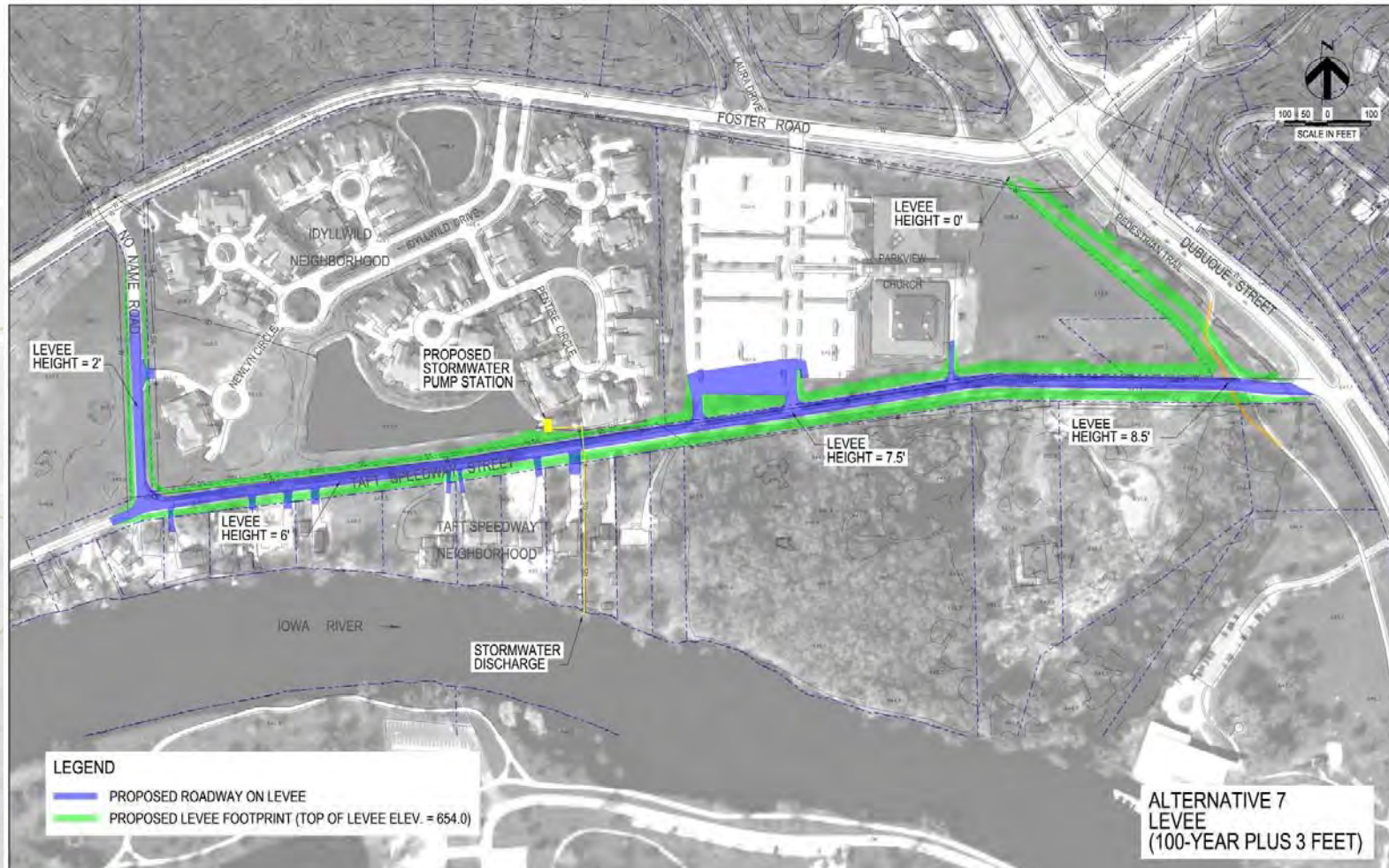
Do Nothing Alternative



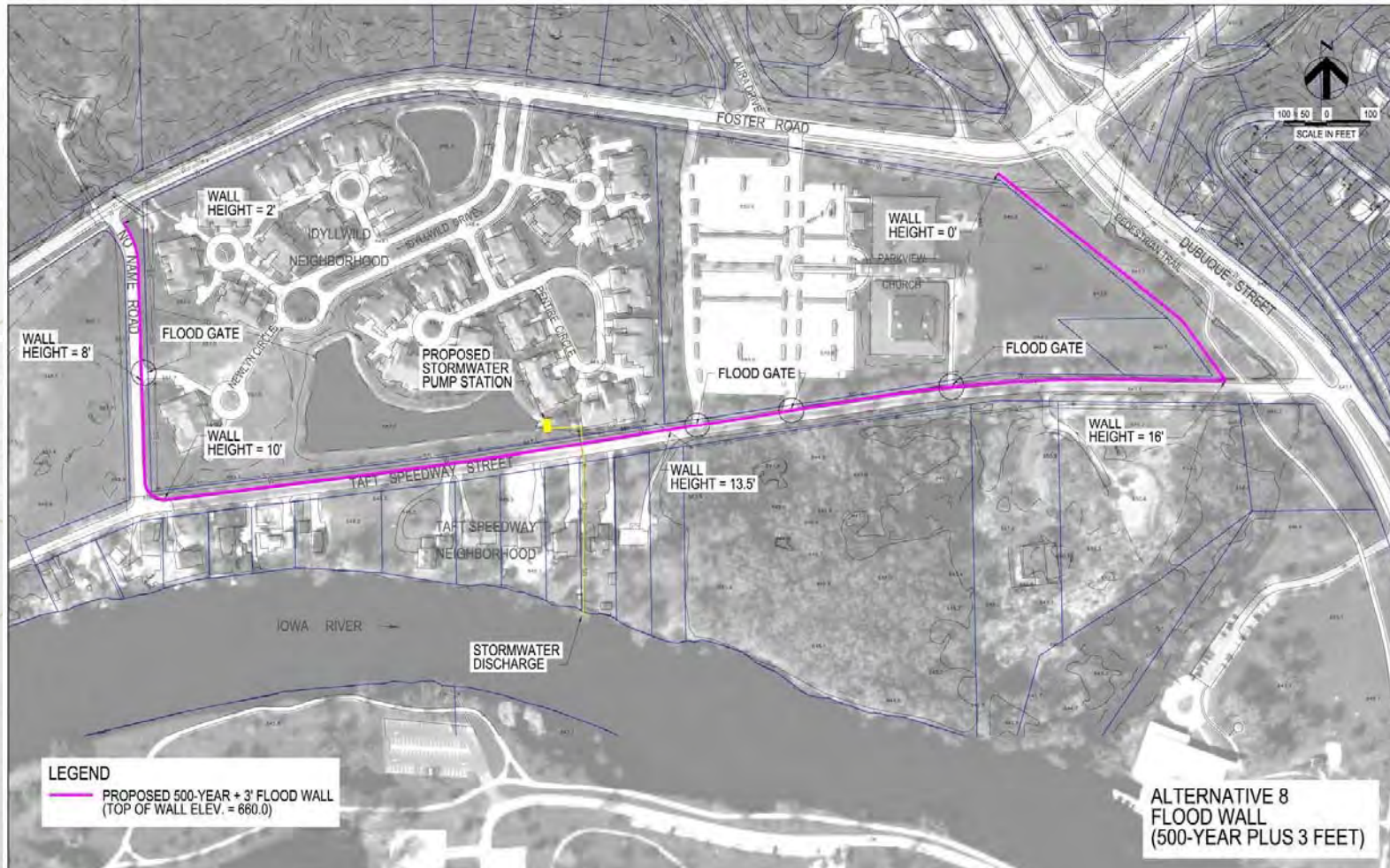
Alternative 2B



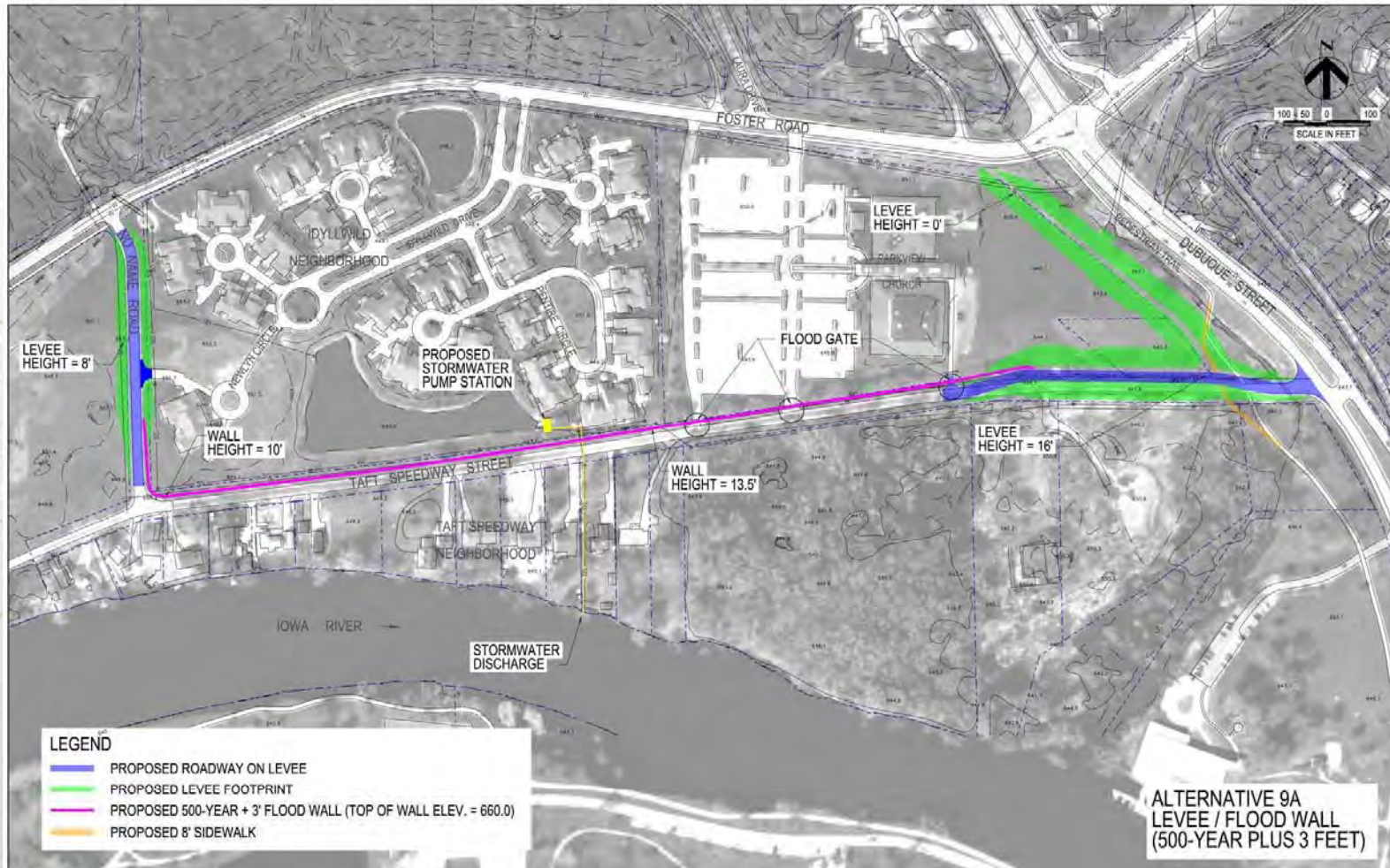
Alternative 7



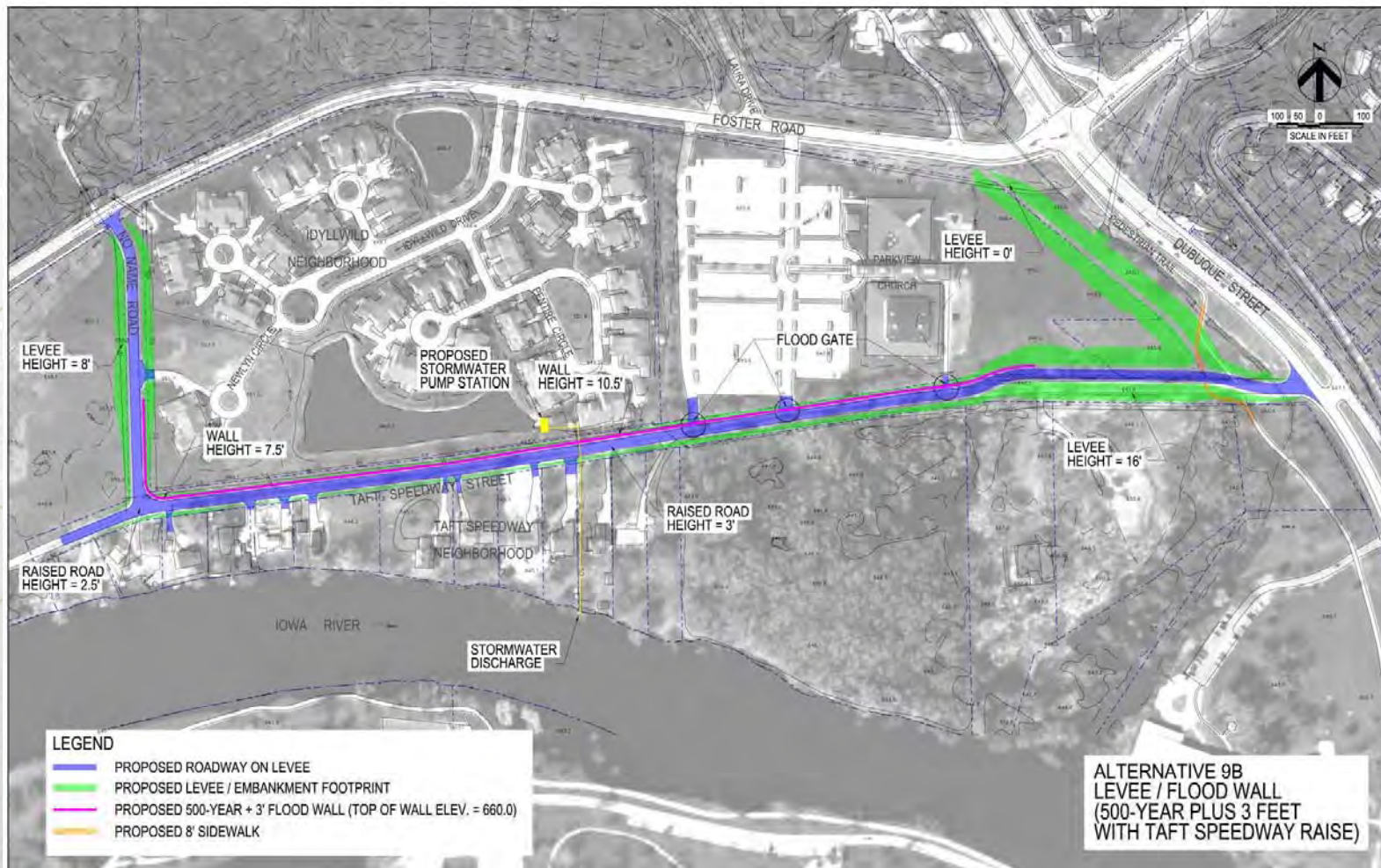
Alternative 8



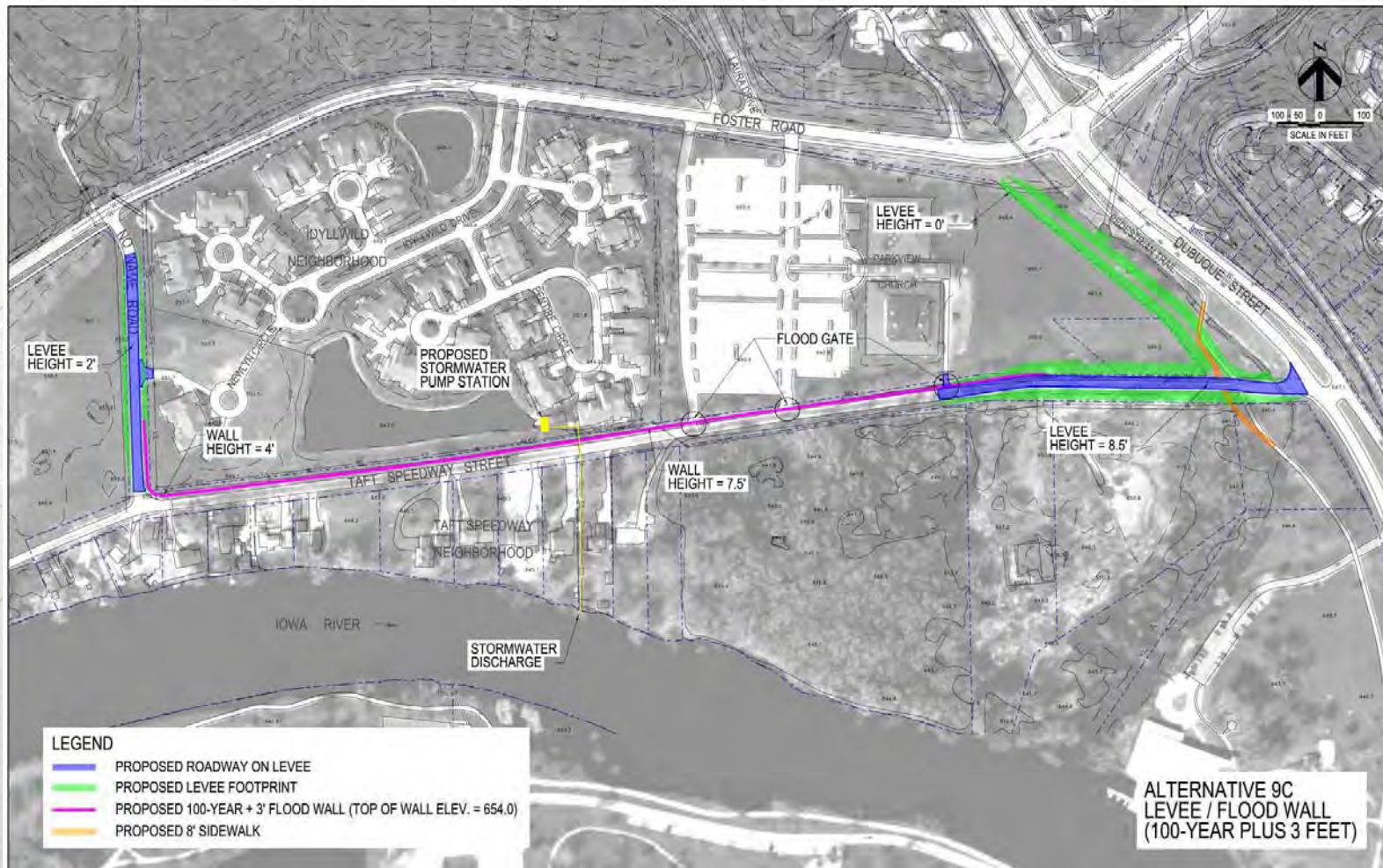
Alternative 9A



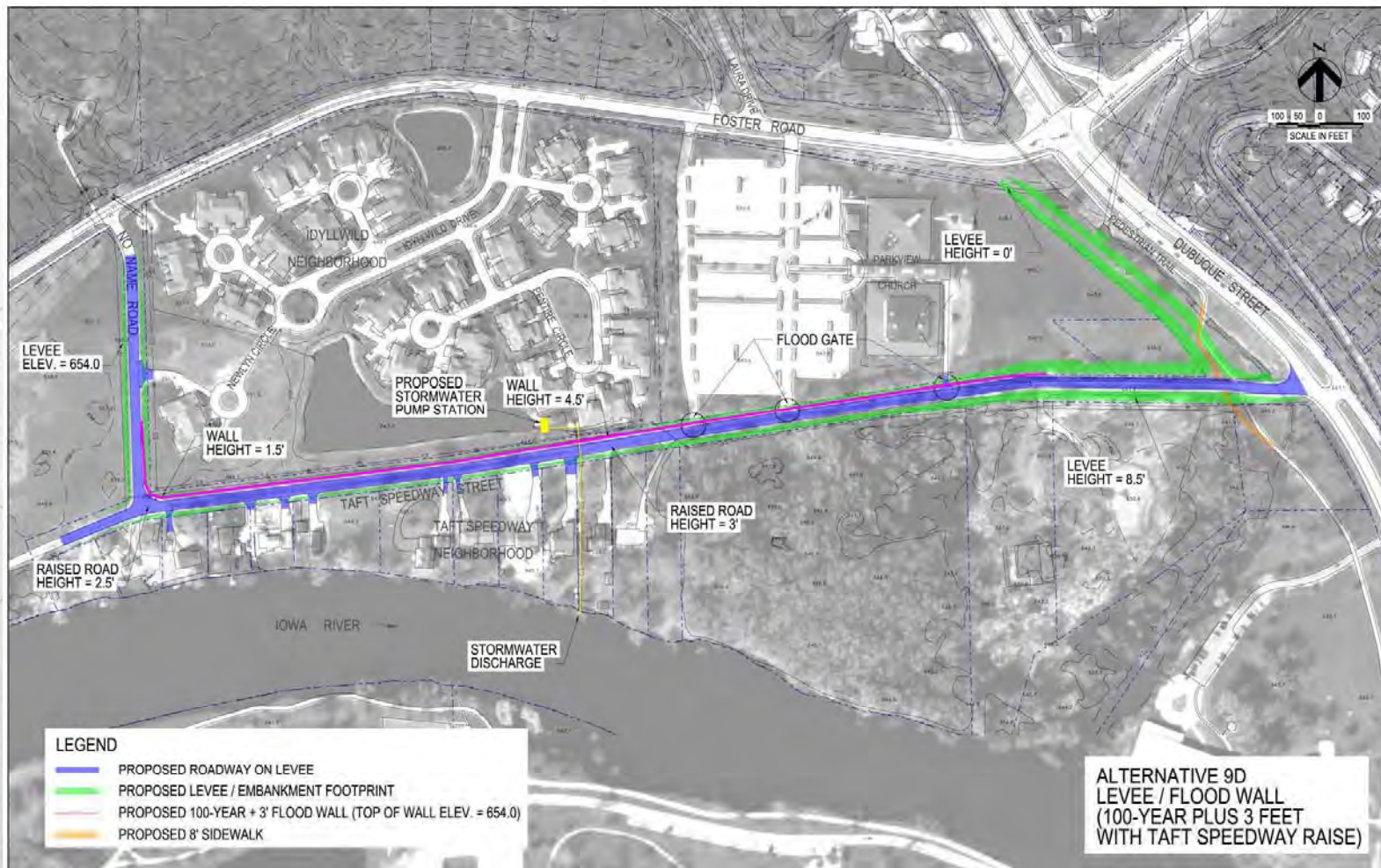
Alternative 9B



Alternative 9C



Alternative 9D



100-Year (+ 3 ft) Levee Condition



Example Cross Section Shown Below
is Taken At the Identified Location

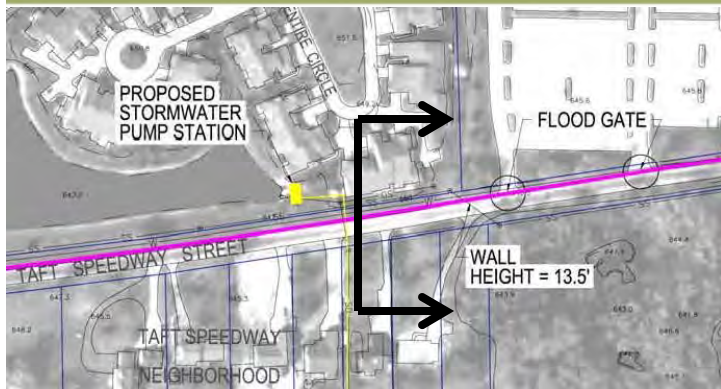


Levee/Roadway

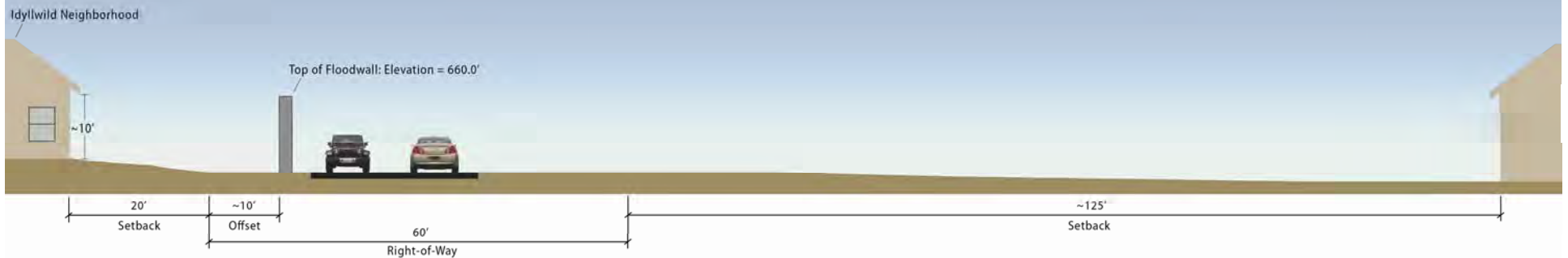


Robert D. Ray Drive, Des Moines, Iowa 6/6/2012

500-Year (+ 3 ft) Floodwall Condition



Example Cross Section Shown Below
is Taken At the Identified Location



Approximate Cost Opinions

Category	Alt. 2B	Alt. 7	Alt. 8	Alt. 9A	Alt. 9B	Alt. 9C	Alt. 9D
Removals & Misc	\$0.5 Million	\$0.9 Million	\$0.9 Million	\$1.0 Million	\$1.2 Million	\$0.9 Million	\$1.0 Million
Pavement & Utilities	\$1.6 Million	\$1.6 Million	\$1.0 Million	\$1.4 Million	\$1.7 Million	\$1.3 Million	\$1.5 Million
Levee/ Floodwall	\$0.0 Million	\$1.2 Million	\$6.7 Million	\$5.1 Million	\$4.9 Million	\$4.1 Million	\$4.0 Million
Storm water Pump Station	\$0.0 Million	\$2.3 Million	\$2.3 Million	\$2.3 Million	\$2.3 Million	\$2.3 Million	\$2.3 Million
Easement	\$0.2 Million	\$0.2 Million	\$0.1 Million	\$0.2 Million	\$0.1 Million	\$0.1 Million	\$0.1 Million
Contingency	\$0.5 Million	\$1.4 Million	\$2.5 Million	\$2.3 Million	\$2.3 Million	\$2.0 Million	\$2.1 Million
Engineering	\$0.2 Million	\$0.5 Million	\$0.8 Million	\$0.8 Million	\$0.8 Million	\$0.7 Million	\$0.7 Million
TOTAL	\$3.0 Million	\$8.1 Million	\$14.3 Million	\$13.1 Million	\$13.3 Million	\$11.4 Million	\$11.7 Million

Operation and Maintenance Costs

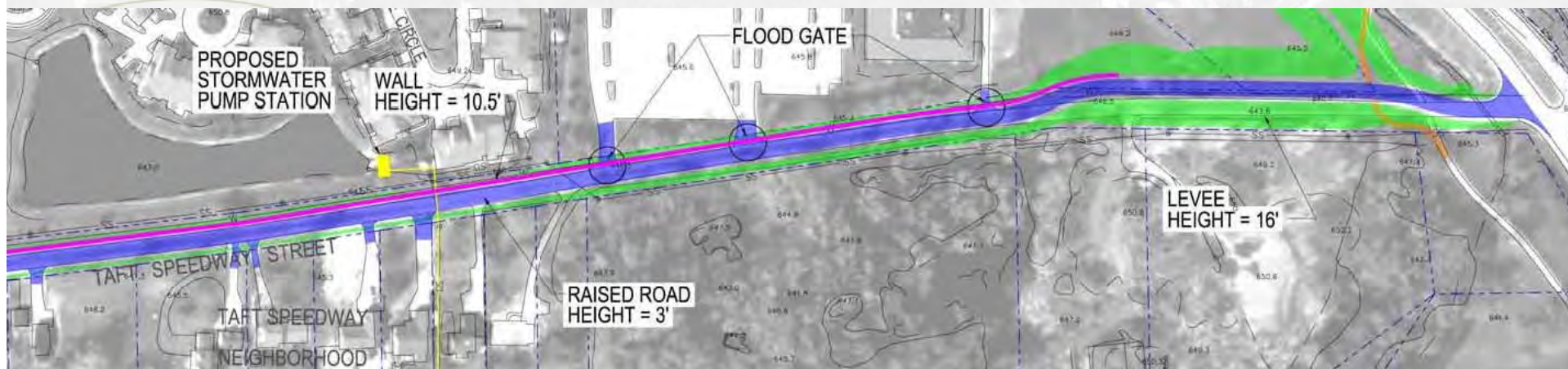
- Major O&M Cost Items
 - Pump Station
 - Relief Wells
 - Levee Maintenance*

Estimated annual O&M costs of \$30,000/year

*Levees within roadway embankments would be covered under typical roadway maintenance

Easements

- Both temporary and permanent easements required
- Easement acquisition costs
- Easement acquisition process



Utilities

- Sanitary
- Water
- Overhead Electric



- 



Where Do We Go From Here?



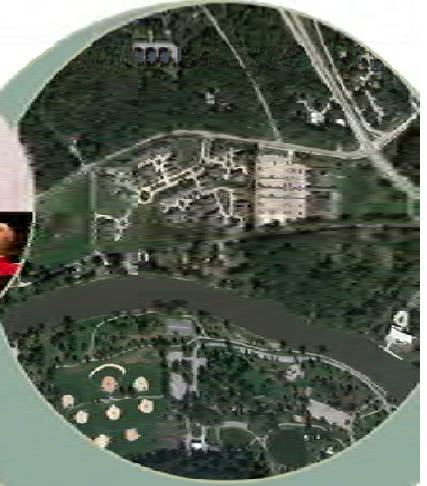
How You Can Help?

We want your input!

- Fill out a comment form
- Visit us on the Taft Speedway website
 - *www.icgov.org, click on the Taft Speedway Study link*



Comments?



Comment Guidelines:

- Come up to the podium one person at a time
- State and spell your name for the minute recorder
- You have 2 minutes to speak, as to ensure that everyone gets the opportunity to be heard
- Please allow everyone to comment once before commenting a second time
- Be kind and courteous to all



HDR



**APPENDIX I: TAFT SPEEDWAY FLOOD MITIGATION STUDY
OPINIONS OF PROBABLE CONSTRUCTION COST**

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Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 2B: Foster Road to 500 Year + 1'

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Earthwork, Removals, & Miscellaneous	\$ 500,000
Pavement & Utilities Construction	\$ 1,600,000
Levee/Floodwall Construction	\$ -
Stormwater Pump Station	\$ -
Easements	\$ 200,000
Contingencies (25%)	\$ 500,000
Engineering (8%)	\$ 200,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 3,000,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 2B: Foster Road to 500 Year + 1'

Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	5,390	SY	\$ 5.00	\$ 26,950	1,485 LF Foster Road
Sidewalk Removal	640	SY	\$ 4.00	\$ 2,560	South side of Foster
Strip & Stockpile Topsoil	560	CY	\$ 2.00	\$ 1,120	4"
Remove Curb Inlets	20	EA	\$ 750	\$ 15,000	
Remove & Relocate/Replace Trees	30	EA	\$ 1,000	\$ 30,000	South side of Foster
Earthwork					
Earthwork (Embankment)	23,760	CY	\$ 6.50	\$ 154,440	30% compaction factor
Respread Topsoil	450	CY	\$ 2.00	\$ 900	
Pavement & Utility Construction					
Construct Curb Inlets	20	EA	\$ 2,500	\$ 50,000	
Construct 8" PCC Pavement (Foster Road)	5,190	SY	\$ 35.00	\$ 181,650	31' Urban Section, 1,485 LF
Construct 7" PCC Pavement (Parking Lot & Driveways)	670	SY	\$ 35.00	\$ 23,450	Idyllwild and Parkview Church entrance
Construct 6"PCC Sidewalk	1,190	SY	\$ 31.50	\$ 37,490	8' wide trail
Construct Culvert		LF		\$ -	
Raise Ex. Fire Hydrant	3	EA	\$ 8,000	\$ 24,000	2 @ No Name, 1 @ Idyllwild
Construct 8" Water Line	1,580	LF	\$ 109	\$ 172,220	along Foster Road, gate valves, fittings
Construct 16" Water Line	1,580	LF	\$ 283	\$ 447,140	along Foster Road, gate valves, fittings
Construct 30" Water Line	1,580	LF	\$ 372	\$ 587,760	along Foster Road, butterfly valves, fittings
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 35,000	\$ 35,000	7 Poles to be removed & relocated
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	1,340	LF	\$ 2.25	\$ 3,015	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	1	AC	\$ 4,500	\$ 4,650	
Remove & Replace Landscaping/Entrance Monuments	1	LS	\$ 10,000	\$ 10,000	
Easements (Temporary and Permanent)	43,560	SF	\$ 2.75	\$ 119,790	Idyllwild
Mobilization (8%)	1	LS	\$ 148,870	\$ 148,870	
Contingencies (25%)	1	LS	\$ 465,220	\$ 465,220	
Engineering (8%)	1	LS	\$ 148,870	\$ 148,870	
Total Construction Cost				\$ 2,743,595	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Earthwork, Removals, & Miscellaneous	\$ 500,000
Pavement & Utilities Construction	\$ 1,600,000
Levee/Floodwall Construction	\$ -
Stormwater Pump Station	\$ -
Easements	\$ 200,000
Contingencies (25%)	\$ 500,000
Engineering (8%)	\$ 200,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 3,000,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 7: 100-Year + 3' Levee

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,600,000
Levee/Floodwall Construction	\$ 1,200,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 200,000
Contingencies (25%)	\$ 1,400,000
Engineering (8%)	\$ 500,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 8,100,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
 Project: Taft Speedway Flood Study
 Task:
 Task No.

Date: 5-Jun-12
 Estimator: TRM
 Checked By:
 Check Dates:



Alternate 7: 100-Year + 3' Levee

Description	Quantity	Unit	Unit Price (\$/unit)	Total (\$)	Comments/Source
Removals					
Pavement Removal	11,310	SY	\$ 5.00	\$ 56,550	No Name Rd. & Taft Speedway
Sidewalk Removal	350	SY	\$ 4.00	\$ 1,400	Dubuque St. trail
Remove Driveway Culvert	4	EA	\$ 250	\$ 1,000	
Strip & Stockpile Topsoil	2,690	CY	\$ 2.00	\$ 5,380	4"
Levee Footprint Overexcavation	28,000	CY	\$ 4.00	\$ 112,000	3' over footprint of fill
Remove Sanitary Sewer	1,260	LF	\$ 5.00	\$ 6,300	Taft Speedway crossing & lineal
Remove Sanitary Sewer Manhole	5	EA	\$ 500	\$ 2,500	
Remove Storm Sewer Manhole/Area Inlet	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	98,670	CY	\$ 6.50	\$ 641,355	30% compaction factor
Respread Topsoil	2,150	CY	\$ 2.00	\$ 4,300	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	relief well plus pump test
Toe Drain	2,440	LF	\$ 18.00	\$ 43,920	Toe drain for levee outside of relief well area
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,260	LF	\$ 60.00	\$ 75,600	Taft Speedway crossing & lineal
Construct Sanitary Sewer Manhole	5	EA	\$ 3,500	\$ 17,500	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500.00	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	8,600	SY	\$ 35.00	\$ 301,000	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	1,780	SY	\$ 35.00	\$ 62,300	5% slope on driveways
Construct 6" PCC Sidewalk	330	SY	\$ 31.50	\$ 10,400	8' wide trail
Construct Driveway Culvert (4)	160	LF	\$ 80.00	\$ 12,800	30" est.
Raise Ex. Fire Hydrant	5	EA	\$ 8,000	\$ 40,000	
Construct 12" Water Line	670	LF	\$ 197	\$ 131,990	Along No Name Road
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 6" Water Line	1,330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 125,000	\$ 125,000	22 (Taft) + 3 (No Name) Poles to be raised
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	7,090	LF	\$ 2.25	\$ 15,960	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	5	AC	\$ 4,500	\$ 22,500	
Easements (Temporary and Permanent) ¹	87,950	SF	\$ 2.38	\$ 209,463	Idyllwild
Mobilization (8%)	1	LS	\$ 438,550	\$ 438,550	
Contingencies (25%)	1	LS	\$ 1,370,460	\$ 1,370,460	
Engineering (8%)	1	LS	\$ 438,550	\$ 438,550	
Total Construction Cost				\$ 7,938,838	

¹⁾ The easement costs are slightly different from those shown in the June 6, 2012 public meeting due to the revisions made to satisfy a City requirement that water mains be separated by 10 feet from sanitary and storm sewers.

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,600,000
Levee/Floodwall Construction	\$ 1,200,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 200,000
Contingencies (25%)	\$ 1,400,000
Engineering (8%)	\$ 500,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 8,100,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
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Check Dates



Alternate 8: 500-Year + 3' Floodwall

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,000,000
Levee/Floodwall Construction	\$ 6,700,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,500,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 14,300,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
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Check Dates



Alternate 8: 500-Year + 3' Floodwall

Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	190	SY	\$ 5.00	\$ 950	Floodwall crossing of driveways
Sidewalk Removal		SY		\$ -	
Remove Driveway Culvert		EA		\$ -	East church entrance, leave in place
Strip & Stockpile Topsoil		CY		\$ -	4"
Remove Sanitary Sewer	80	LF	\$ 5.00	\$ 400	Taft Speedway crossing
Remove Sanitary Sewer Manhole	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Floodwall					
Floodwall	1	LS	\$ 5,721,050	\$ 5,721,050	per Floodwall Cost Est.
Flood Gates	4	EA	\$ 225,000	\$ 900,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,260	LF	\$ 60.00	\$ 75,600	Taft Speedway crossing
Construct Sanitary Sewer Manhole	2	EA	\$ 3,500	\$ 7,000	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	60	SY	\$ 35.00	\$ 2,100	
Construct 7" PCC Pavement (Parking Lot & Driveways)	190	SY	\$ 50.00	\$ 9,500	@ Floodgates
Construct 6" PCC Sidewalk		SY		\$ -	8' wide trail
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	1,330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	4,000	LF	\$ 2.25	\$ 9,000	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	1	AC	\$ 4,500	\$ 4,500	
Easements (Temporary and Permanent) ¹	22,050	SF	\$ 2.75	\$ 60,638	Idyllwild
Mobilization (8%)	1	LS	\$ 799,910	\$ 799,910	
Contingencies (25%)	1	LS	\$ 2,499,710	\$ 2,499,710	
Engineering (8%)	1	LS	\$ 799,910	\$ 799,910	
Total Construction Cost				\$ 14,158,988	

1) The easement costs are slightly different from those shown in the June 6, 2012 public meeting due to the revisions made to satisfy a City requirement that water mains be separated by 10 feet from sanitary and storm sewers.

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,000,000
Levee/Floodwall Construction	\$ 6,700,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,500,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 14,300,000

* CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 9A: 500-Year + 3' Combination Levee / Flood Wall

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,000,000
Pavement & Utilities Construction	\$ 1,400,000
Levee/Floodwall Construction	\$ 5,100,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 200,000
Contingencies (25%)	\$ 2,300,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 13,100,000

* CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task:
Task No.:

Date: 5-Jun-12
Estimator: TRM
Checked By:
Check Dates:



Alternate 9A: 500-Year + 3' Combination Levee / Flood Wall

Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	4,200	SY	\$ 5.00	\$ 21,000	No Name Rd. & Taft Speedway
Sidewalk Removal	260	SY	\$ 4.00	\$ 1,040	Dubuque St. trail
Remove Driveway Culvert	2	EA	\$ 225	\$ 450	
Strip & Stockpile Topsoil	2,050	CY	\$ 2.00	\$ 4,100	4"
Levee Footprint Overexcavation	19,950	CY	\$ 4.00	\$ 79,800	3' over footprint of fill
Remove Sanitary Sewer	80	LF	\$ 5.00	\$ 400	Taft Speedway crossing
Remove Sanitary Sewer Manhole	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer Manhole/Area Inlet	1	EA	\$ 500	\$ 500	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	86,910	CY	\$ 6.50	\$ 564,920	30% compaction factor
Respread Topsoil	1,640	CY	\$ 2.00	\$ 3,280	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	Relief wells plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 3,255,900	\$ 3,255,900	per Floodwall Cost Est.
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,900	LF	\$ 60.00	\$ 114,000	Taft Speedway and No Name crossing
Construct Sanitary Sewer Manhole	2	EA	\$ 3,500	\$ 7,000	
Construct Storm Sewer Manhole/Area Inlet	1	EA	\$ 2,750	\$ 2,750	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	4,260	SY	\$ 35.00	\$ 149,100	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	290	SY	\$ 50.00	\$ 14,500	Driveways plus Floodgate crossings
Construct 6" PCC Sidewalk	280	SY	\$ 31.50	\$ 8,820	8' wide trail
Construct Driveway Culvert	60	LF	\$ 80.00	\$ 4,800	30" est.
Extend Culverts	25	LF	\$ 150	\$ 3,750	Taft & Dubuque Streets
Construct 12" Water Line	670	LF	\$ 197	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 6" Water Line	1330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 55,000	\$ 55,000	8 (Taft) + 3 (No Name) Poles to be raised
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	12,110	LF	\$ 2.25	\$ 27,250	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	4	AC	\$ 4,500	\$ 18,000	
Easements (Temporary and Permanent)	39,210	SF	\$ 2.75	\$ 107,830	Idyllwild
Mobilization (8%)	1	LS	\$ 715,180	\$ 715,180	
Contingencies (25%)	1	LS	\$ 2,234,910	\$ 2,234,910	
Engineering (8%)	1	LS	\$ 715,180	\$ 715,180	
Total Construction Cost				\$ 12,712,730	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,000,000
Pavement & Utilities Construction	\$ 1,400,000
Levee/Floodwall Construction	\$ 5,000,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 200,000
Contingencies (25%)	\$ 2,300,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 13,000,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 9B: 500-Year + 3' Combination Levee / Flood Wall w/ Raised Road

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,200,000
Pavement & Utilities Construction	\$ 1,700,000
Levee/Floodwall Construction	\$ 4,900,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,300,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 13,300,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 9B: 500-Year + 3' Combination Levee / Flood Wall w/ Raised Road

Description	Quantity	Unit	Unit Price (\$/unit)	Total (\$)	Comments/Source
Removals					
Pavement Removal	10,270	SY	\$ 5.00	\$ 51,350	
Sidewalk Removal	250	SY	\$ 4.00	\$ 1,000	
Remove Driveway Culvert	4	EA	\$ 225	\$ 900	
Strip & Stockpile Topsoil	2,700	CY	\$ 2.00	\$ 5,400	4"
Levee Footprint Overexcavation	34,090	CY	\$ 4.00	\$ 136,360	3' over footprint of fill
Remove Sanitary Sewer	470	LF	\$ 5.00	\$ 2,350	Taft Speedway crossing & along No Name Rd
Remove Sanitary Sewer Manhole	4	EA	\$ 500	\$ 2,000	
Remove Storm Sewer Manhole/Area Inlet	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embarkment)	116,337	CY	\$ 6.50	\$ 756,200	30% compaction factor
Respread Topsoil	2,160	CY	\$ 2.00	\$ 4,320	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	Relief wells plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 2,930,600	\$ 2,930,600	per Floodwall Cost Est.
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	1,900	LF	\$ 60.00	\$ 114,000	Taft Speedway crossing & along No Name Rd
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 14,000	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway & No Name Rd)	9,860	SY	\$ 35.00	\$ 345,100	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	900	SY	\$ 50.00	\$ 45,000	
Construct 6" PCC Sidewalk	280	SY	\$ 31.50	\$ 8,820	8' wide trail
Construct Driveway Culvert	120	LF	\$ 80.00	\$ 9,600	30" est.
Extend Culverts	25	LF	\$ 150	\$ 3,750	Taft & Dubuque Streets
Construct 12" Water Line	670	LF	\$ 197	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 6" Water Line	1,330	LF	\$ 190	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 85,000	\$ 85,000	13 (Taft) + 4 (No Name) Poles to be raised
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	8,240	LF	\$ 2.25	\$ 18,540	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	5	AC	\$ 4,500	\$ 22,610	
Easements (Temporary and Permanent)	39,210	SF	\$ 1.92	\$ 75,430	Idylwild
Mobilization (8%)	1	LS	\$ 733,260	\$ 733,260	
Contingencies (25%)	1	LS	\$ 2,291,420	\$ 2,291,420	
Engineering (8%)	1	LS	\$ 733,260	\$ 733,260	
Total Construction Cost				\$ 12,999,040	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,200,000
Pavement & Utilities Construction	\$ 1,700,000
Levee/Floodwall Construction	\$ 4,900,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,300,000
Engineering (8%)	\$ 800,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 13,300,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 9C: 100-Year + 3' Combination Levee / Flood Wall

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,300,000
Levee/Floodwall Construction	\$ 4,100,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,000,000
Engineering (8%)	\$ 700,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 11,400,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 9C: 100-Year + 3' Combination Levee / Flood Wall

Description	Quantity	Unit	Unit Price (\$/unit)	Total (\$)	Comments/Source
Removals					
Pavement Removal	3,640	SY	\$ 5.00	\$ 18,200	
Sidewalk Removal	350	SY	\$ 4.00	\$ 1,400	
Remove Driveway Culvert	2	EA	\$ 225	\$ 450	
Strip & Stockpile Topsoil	1,210	CY	\$ 2.00	\$ 2,420	4"
Levee Footprint Overexcavation	14,500	CY	\$ 4.00	\$ 58,000	3' over footprint of fill
Remove Sanitary Sewer	80	LF	\$ 5.00	\$ 400	Taft Speedway crossing
Remove Sanitary Sewer Manhole	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer Manhole/Area Inlet	1	EA	\$ 500	\$ 500	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	25,950	CY	\$ 6.50	\$ 168,680	30% compaction factor
Respread Topsoil	970	CY	\$ 2.00	\$ 1,940	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	Relief wells plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 2,700,940	\$ 2,700,940	per Floodwall Cost Opinion
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	100	LF	\$ 60.00	\$ 6,000	Taft Speedway crossing
Construct Sanitary Sewer Manhole	2	EA	\$ 3,500	\$ 7,000	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	30	LF	\$ 90.00	\$ 2,700	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	3,750	SY	\$ 35.00	\$ 131,250	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	180	SY	\$ 50.00	\$ 9,000	
Construct 6" PCC Sidewalk	330	SY	\$ 31.50	\$ 10,400	8' wide trail
Construct Driveway Culvert	40	LF	\$ 80.00	\$ 3,200	30" est.
Construct 12" Water Line	670	LF	\$ 197.00	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190.00	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 6" Water Line	1,330	LF	\$ 190.00	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 85,000	\$ 85,000	13 (Taft) + 4 (No Name) Poles to be raised?
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	12,000	LF	\$ 2.25	\$ 27,000	
Dewatering		LS	\$ 50,000	\$ -	
Seeding	2	AC	\$ 4,500	\$ 10,110	
Easements (Temporary and Permanent)	19,600	SF	\$ 2.75	\$ 53,900	Idyllwild
Mobilization (8%)	1	LS	\$ 623,700	\$ 623,700	
Contingencies (25%)	1	LS	\$ 1,949,040	\$ 1,949,040	
Engineering (8%)	1	LS	\$ 623,700	\$ 623,700	
Total Construction Cost				\$ 11,046,500	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 900,000
Pavement & Utilities Construction	\$ 1,300,000
Levee/Floodwall Construction	\$ 4,100,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,000,000
Engineering (8%)	\$ 700,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 11,400,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task
Task No.

Date 5-Jun-12
Estimator TRM
Checked By
Check Dates



Alternate 9D: 100-Year + 3' Combination Levee / Flood Wall w/ Raised Road

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,000,000
Pavement & Utilities Construction	\$ 1,500,000
Levee/Floodwall Construction	\$ 4,000,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,100,000
Engineering (8%)	\$ 700,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 11,700,000

*CDBG grant contribution from previously approved project application is \$8,011,800

Opinion of Probable Construction Cost, Taft Speedway, Iowa City

Client: City of Iowa City
Project: Taft Speedway Flood Study
Task:
Task No.:

Date: 5-Jun-12
Estimator: TRM
Checked By:
Check Dates:



Alternate 9D: 100-Year + 3' Combination Levee / Flood Wall w/ Raised Road

Description	Quantity	Unit Price		Total (\$)	Comments/Source
		Unit	(\$/unit)		
Removals					
Pavement Removal	10,630	SY	\$ 5.00	\$ 53,150	Taft Speedway, No Name Road
Sidewalk Removal	350	SY	\$ 4.00	\$ 1,400	Foster, Dubuque
Remove Driveway Culvert	4	EA	\$ 225	\$ 900	
Strip & Stockpile Topsoil	2,500	CY	\$ 2.00	\$ 5,000	4"
Levee Footprint Overexcavation	3,120	CY	\$ 4.00	\$ 12,480	3' over footprint of fill
Remove Sanitary Sewer	100	LF	\$ 5.00	\$ 500	Taft Speedway crossing
Remove Sanitary Sewer Manhole	4	EA	\$ 500	\$ 2,000	
Remove Storm Sewer Manhole/Area Inlet	2	EA	\$ 500	\$ 1,000	
Remove Storm Sewer	80	LF	\$ 5.00	\$ 400	V
Remove & Relocate/Replace Existing Trees	10	EA	\$ 1,000	\$ 10,000	Trees north of Taft east of church
Levee Earthwork					
Earthwork (Embankment)	38,250	CY	\$ 6.50	\$ 248,625	30% compaction factor
Respread Topsoil	2,000	CY	\$ 2.00	\$ 4,000	
Relief Wells	16	EA	\$ 30,000	\$ 480,000	Relief wells plus pump test
Toe Drain	540	LF	\$ 18.00	\$ 9,720	Toe drain for levee outside of relief well area
Floodwall					
Floodwall	1	LS	\$ 2,574,270	\$ 2,574,270	per Floodwall Cost Est.
Flood Gates	3	EA	\$ 225,000	\$ 675,000	
Pavement & Utility Construction					
Construct Sanitary Sewer w/ Bedding	100	LF	\$ 60.00	\$ 6,000	Taft Speedway crossing
Construct Sanitary Sewer Manhole	5	EA	\$ 3,500	\$ 17,500	
Construct Storm Sewer Manhole/Area Inlet	2	EA	\$ 2,750	\$ 5,500	
Furnish & Install Sluice Gate	1	EA	\$ 20,000	\$ 20,000	
Construct Storm Sewer w/ Bedding	80	LF	\$ 90.00	\$ 7,200	V
Construct Storm Sewer w/ Bedding	110	LF	\$ 90.00	\$ 9,900	Across Taft Within Dubuque Right-of-way
Construct Sanitary Sewer w/ Bedding	1,330	LF	\$ 60.00	\$ 79,800	South of Taft Speedway
Construct Sanitary Sewer Manhole	4	EA	\$ 3,500	\$ 15,520	South of Taft Speedway
Construct 8" PCC Pavement (Taft Speedway)	9,380	SY	\$ 35.00	\$ 328,300	rural section
Construct 7" PCC Pavement (Parking Lot & Driveways)	670	SY	\$ 35.00	\$ 23,450	
Construct 6" PCC Sidewalk	330	SY	\$ 31.50	\$ 10,400	8' wide trail
Construct Driveway Culvert	120	LF	\$ 80.00	\$ 9,600	30" est.
Construct 12" Water Line	670	LF	\$ 197.00	\$ 131,990	Along No Name
Construct 12" Water Line	2,730	LF	\$ 190.00	\$ 518,700	Along Taft Speedway
Construct 6" Water Line	430	LF	\$ 88.00	\$ 37,840	North of Taft Speedway
Construct 6" Water Line	1,330	LF	\$ 190.00	\$ 252,700	South of Taft Speedway
Miscellaneous					
Overhead Power Relocation	1	LS	\$ 85,000	\$ 85,000	13 (Taft) + 4 (No Name) Poles to be raised?
Stormwater Pumping Structure w/ Pump & Outlet	1	LS	\$ 2,300,000	\$ 2,300,000	
Traffic Control	1	LS	\$ 3,500	\$ 3,500	
Erosion Control (Silt Fence)	8,240	LF	\$ 2.25	\$ 18,540	
Dewatering	1	LS	\$ 50,000	\$ 50,000	
Seeding	4	AC	\$ 4,500	\$ 18,000	
Easements (Temporary and Permanent)	39,210	SF	\$ 1.92	\$ 75,430	Idyllwild
Mobilization (8%)	1	LS	\$ 642,240	\$ 642,240	
Contingencies (25%)	1	LS	\$ 2,006,980	\$ 2,006,980	
Engineering (8%)	1	LS	\$ 642,240	\$ 642,240	
Total Construction Cost				\$ 11,394,775	

Opinion of Probable Construction Cost Summary

Description	Total (\$)
Removals & Miscellaneous	\$ 1,000,000
Pavement & Utilities Construction	\$ 1,500,000
Levee/Floodwall Construction	\$ 4,000,000
Stormwater Pump Station	\$ 2,300,000
Easements	\$ 100,000
Contingencies (25%)	\$ 2,100,000
Engineering (8%)	\$ 700,000
TOTAL OPINION OF CONSTRUCTION COST	\$ 11,700,000

*CDBG grant contribution from previously approved project application is \$8,011,800